

## CAYM Education Trusts Siddhant College of Pharmacy

A/P Sudumbare, Talegaon –Chakan Road, Tal:Maval, Dist: Pune -412109 Phone: 02114-661947, Email: siddhantcollegeofpharmacy@yahoo.in,Website: www.siddhantcop.in

## 7.1.3

# QUALITY AUDITS ON ENVIRONMENT AND ENERGY REGULARLY UNDERTAKEN BY THE INSTITUTION. THE INSTITUTIONAL ENVIRONMENT AND ENERGY INITIATIVES ARE CONFIRMED THROUGH THE FOLLOWING

- 1. Green Audit/Environmental Audit
- 2. Energy Audit
- 3. Clean And Green Campus Initiatives
- 4. Beyond The Campus Environmental Promotional Activities

## **DVV Query**

- 1. Policy Document on Environment and energy usage.
- 2. Action taken reports and Achievement report as clean and green campus initiatives.
- 3. Reports of the Audits.
- 4. Certificate from the external accredited auditing agency.
- 5. Geo tagged photographs with caption and date.
- 6. Any supporting document for beyond the campus Environmental Promotions

### **DVV Clarifications**

### **DVV Response For 7.1.3**

- 1. Policy Document on Environment and energy usage.
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## 7.1.3 QUALITY AUDITS ON ENVIRONMENT AND ENERGY REGULARLY UNDERTAKEN BY THE INSTITUTION. THE INSTITUTIONAL ENVIRONMENT AND ENERGY INITIATIVES ARE CONFIRMED THROUGH THE FOLLOWING

## **LIST OF DOCUMENTS**

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#### LIST OF DOCUMENTS

Sr. No.	Name of the Document
1	Policy Document On Environment And Energy Usage,
а	Policy Document Of Environment And Energy Use
b	Policy Document Of Green Campus
c	Policy Document Of Plastic Ban
d	Policy Document Of Plastic Free Campus
e .	Policy Document Of Waste Water Recycling
f	Policy Document Of Water Conservation



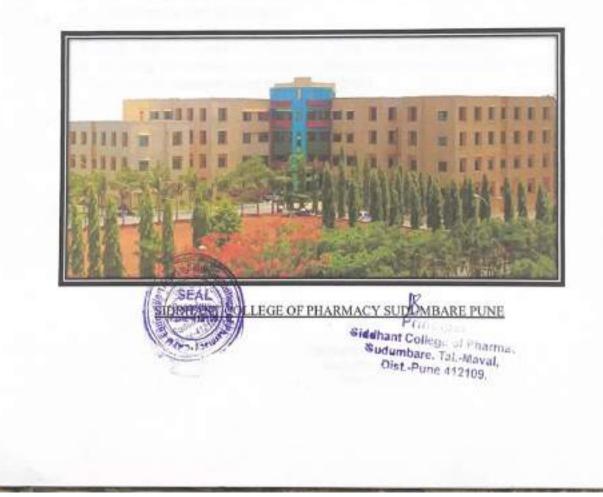
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# POLICY ON ENVIRONMENT AND ENERGY USAGE

## SIDDHANT COLLEGE OF PHARMACY SUDUMBARE PUNE.



# Environment And Energy Usage Policy

Introduction The Environment and Energy usage Policy of Siddhant college of pharmacy, sudumbre is to manage energy in such a systematic way so as to minimize its impact on the environment. The policy implies to avoid the unnecessary use of energy resources and to explore the renewable energy resources to reduce the burden of the government and to find out substitute natural resources as solutions to the energy crisis. This environment and energy policy is binding for all the components of the institution and applies to all its stakeholders and to the various activities undertaken by the institution. It will help us to embed efficiency and environmental awareness into our everyday activities, thus helping us to realize our responsibilities and commitment to conservation of natural resources and to limit its usage. The various activities are conducted through NSS unit of the college for the environmental awareness, to undertake green initiatives, and to conduct green literacy programmes to save energy and to protect the environment.

#### Policies:

- > To assess our energy usage and measure its impact on the environment.
- To reduce local air pollution emissions using environment-friendly vehicles, including bicycles, public transportation and use of pedestrian-friendly roads. To install photovoltaic solar panels for the generation of alternate energy
- > To install LED tube lights / bulbs in the campus to save energy.
- > To develop systematic waste management mechanism
- To develop rain water harvesting unit.
- To undertake tree plantation drive.
- > To take additional measures to continuously improve our energy consumption
- To develop and maintain an environmental management system which is ISO: 14001 and an Energy Management System based on ISO: 50001.
- To ensure the availability of necessary resources to achieve our objectives.
- To encourage use of advanced technology to minimize energy consumption atmospheric emissions and noise.
- > To monitor and respond to emerging environmental and energy issues.
- To strengthen our employees and students environmental knowledge and skills in order to improve our own environmental performance.
- > To provide information and training opportunities on energy saving measures
- > To offer opportunities for employees and students to engage in initiatives those contribute to environmental protection.
- To train our employees and students through NSS unit to make them 'Go Green', to plant trees each year, to celebrate eco-friendly festivals.



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# seyond the campus environmental promotion activities

- > Displayed Posters & Banners with the contents related to environmental issues in the College campus counseling people are to celebrate eco-friendly festivals.
- Conducting sensitization programs for awareness regarding environmental issues specific to water pollution, saving water, waste management, biodiversity, tree plantation, energy conservation are conducted through NSS unit.
- > Observing 'Majhi Vasundhara Abhiyan', Environment Day and takes other initiative related to green practices and tree plantation.
- This policy will be communicated to the students and employees via internal communication channels, and will be made available to all the stakeholders on the institutional website. The Environment and Energy Policy, objectives and targets will be reviewed on a regular basis by the institute the guidance of the Principal of the college.



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# POLICY DOCUMENT





# SIDDHANT COLLEGE OF PHARMACY SUDUMBARE PUNE



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# Introduction Green Campus:

A Green Campus is a place where environmental friendly practices and education system combine to promote sustainable and eco-friendly practices. The green campus concept offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of mankind.

## Objectives of the Green Campus Program:

The first step of the Green Campus Program involves establishing a Policy Document suggesting the strategies, plans and other allied tasks to make this program functional officially. We believe that greening the campus is all about sweeping away wasteful inefficiencies and using conventional sources of energies for its daily power needs, correct disposal handling, purchase of environment friendly supplies and effective recycling. The administration of the Institute believes that everyone has to work out the time bound strategies to implement green campus initiatives. These strategies need to be incorporated into the institutional planning and budgeting processes with the aim of developing a clean and green campus. Everyone at siddhant college of pharmacy will work together to foster a culture of self sustainability and make the entire campus environmental friendly. The Green Campus Initiatives will enable the institution to be a ecofriendly environment nurturing lifelong learning, innovation and sustainability. Green Campus status is achieved by making significant progress in cross campus community collaboration under one or a number of the following themes:

- · Green Campus & Biodiversity
- · Energy
- Water
- · Waste

#### Green campus and biodiversity

We believe that a clean, green and a pollution free environment provide natural environment for an effective learning experience. We have therefore left no stone unturned in the development of a green ecosystem to provide enrichment to the students mind. The road within the College Campus is therefore adorned with tall trees and flowering plants to create a homogenous feeling amongst everyone within the campus. We also intend to introduce planting of saplings by the students for maintaining the greenery within the campus and also inculcate awareness towards nature in their minds. We also has separate medicinal garden in the campus. The trees, plants, herbs and shrubs of variety are planted and maintained.



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#### Energy

Reduce energy consumption - In this context, SCOP has adopted the following policies:

· Activate power management features on computer and monitor so that it will go into a low power "sleep" mode when you are not working on it.

Turn off monitor when anybody leaves his/her Table.

Turn off unnecessary lights and use daylight instead.

· Use LED tubes/bulbs as much as possible

· Switch off lights and fans in the staff rooms, classrooms, seminar hall, conference room and Laboratories when not in use.

· Implement solar system to cut down the heavy usage of electricity.

· Avoid the use of decorative lighting

#### Water

Minimize consumption of water - In this context SCOP has adopted the following policies:

Repair sources of water leakage, such as dripping taps and showers as quickly as possible.

· Install appliances which reduce water consumption.

- · Rain water harvesting.
- · Reuse of water coming out from air conditioners for watering of plants in College campus

. • Use an efficient and hygienic water storage mechanism to minimize the loss of water during storage.

#### Waste

Waste minimization is very important because it helps in protecting the environment and boost environmental performance. Waste minimization techniques focus on preventing waste from ever being created, otherwise known as source reduction, and recycling. In this context SCOP therefore has adopted the following policies:

· Use more readout material in soft form. Reduce the hard readout material.

· Use more of e-mail for officially communicating the information needed, online reading etc.

· Minimize the use of fertilizers and pesticides in college grounds, opting for the use of compost produced on site.



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 Prevent the practice of burning plastic and other materials that emit harmful gas on burning in the campus.

 Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment.

- · Use separate bins for biodegradable and non-biodegradable wastes in the college campus.
- · Recycle electronics and batteries in e-waste recycling bins located in the college

 Use of one device with multiple functions. This will reduce the generation of e-waste at source.

· Dispose the chemical waste generated from the laboratories in a scientific manner.

 Actions taken to reduce consumption of plastic in the campus. Use of plastic cups, plates etc. has been banned in the college campus. Instead other biodegradable forms of articles are being used.

#### Restricted entry of automobiles

Students, staff are encouraged to use bicycles, public transport and pedestrian friendly roads. Students staying in the 1.5Km periphery of the college are not allowed to bring vehicles to college. They are encouraged to avoid the use of vehicles and encouraged to use bicycles. More than 50% students use college transport facility...

#### Plastic free campus

The use of plastic is banned at the campus making it plastic free. The NSS team of our college conducts programs of cleaning the campus for any plastic wastage. Display Boards reflecting "USE OF PLASTIC IS RESTRICTED" are placed in different area of the college. Hazards of using plastic are explained to students from time to time to create awareness and to imbibe the culture of avoiding the use of plastic

#### Paperless office

To initiate paperless office work environment, official circulars of Institute and Departments are communicated through e-mails. Institute, Department and various committee communications are done with whatsapp group and e - mails. All students related information like syllabus, Time Table is made available through the Academic V Medulife - online portal. All faculty members use Google Drive, Vmedulife online portal for sharing course related materials, notes that avoiding the excessive use of papers.



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# Green landscaping with trees and plants

The Institute has a green campus as well as trees are planted all over the campus area. The variety of trees, herbs, shrubs are planted in and around the campus. Old trees are retained and blended with newer ones. The variety of flowering plants are also cultivated in butterfly garden and other ornamental plants have been planted in and around the campus. Most of the corridors of the college are also lined up with potted plants. Tree plantation program is organized every year in the college premises and nearby villages under NSS activity to promote green practices and saving of trees. We intend to pursue a programme of continuous improvement in our procedures, practices and review the policy on a regular basis to evaluate continued relevance and to monitor compliance.



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# POLICY ON PLASTIC BAN

# SIDDHANT COLLEGE OF PHARMACY SUDUMBARE PUNE.



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# POLICY ON PLASTIC BAN

Currently, one of the largest environmental issues is plastic pollution. Plastic manufacturing and consumption have increased dramatically as a result of the convenience and short-term advantages of plastic and plastic products. Over the past century, excessive plastic consumption has outpaced effective trash management, turning it into a global problem. Plastic is a danger that affects not only our health and wellbeing but also the ecosystem. The goal of this policy is to lessen and eventually get rid of plastic pollution. The policy requires institutional action to proactively support the campaign to prohibit the use of single-use plastics.

Principles and Strategies related to Ban of Single Use Plastic By virtue of this policy, siddhant college of pharmacy ,sudumbre prohibits single-use plastic on its campus. Everyone associated with SCOP must adhere completely to the plastic ban policy. Let's work together to create a cleaner, greener world free of dangerous plastics by running campaigns and awareness programmes.

The following must be adopted by all stakeholders involved under the policy:

- · A ban on single-use plastics in campus buildings, hostels, and canteens.
- · Hold workshops on and off campus to raise awareness of the negative effects of plastic.
- · Refuse to bring anything that won't degrade biologically inside the campus.
- Waste generated should be segregated at the source and the segregated wastes should be sent to authorized waste processing centers, disposal facilities
- . All events organized inside the campus should strictly follow the plastic ban



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## POLICY DOCUMENT

## PLASTIC FREE CAMPUS



### SIDDHANT COLLEGE OF PHARMACY SUDUMBARE PUNE



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## Policy on Plastic Free Campus

plastic pollution is ubiquitous in terrestrial and aquatic ecosystems. Plastic waste exposed cant concern for all life forms. Plastic to the environment creates problems and accumulation in the natural environment are occurring at an unprecedented rate due to indiscriminate use, inadequate recycling. We have all contributed to this problem, knowingly and unknowingly and well land must work to reduce and eliminate plastic pollution. Government has decided to take plastic ban as a national level campaign to address the environmental hazards being caused by the indiscriminate use of plastic, Educational institutions must lead this nation-wide Endeavour. There is a need for educational institutions to actively contribute to the effort of banning the use of single use plastics. So it is becoming a key responsibility of every citizen of our country not just to "Say No to Plastics" but also to create awareness among the community as whole to stop this pollution and leave behind a green and pollution free place for our future generations. Siddhant college of pharmacy, sudambre has its own policy/practices as per the MHRD guidelines to achieve plastic free campuses. To carry out awareness drives and sensitizing workshops on the harmful impacts of single use plastics. To ban usage of plastics in the institution's premises. To Incentivize students to be to carry out similar campaigns at community level. To provide water units to avoid the purchase and use of plastic water bottles. To inform about alternative solutions like cloth bags etc., to plastic bottles and other goods on campuses. . To conduct events on designing ecological and environment friendly goods to minimize the use of single use plastic.



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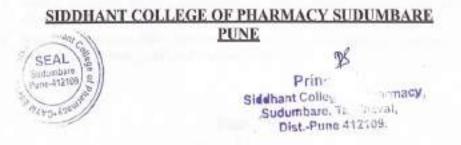
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## POLICY DOCUMENT

## WASTE WATER RECYCLING





#### Waste water recycling policy

Our modern lifestyle provides us the luxury of using various products to make our lives more comfortable and easy, but it comes at a price. A common by product of our current lifestyle includes wastewater, which can either be in the form of water running down the shower or runoff from wet roads. This wastewater is unfit for human consumption or use.

Fortunately, we can make the waste water potable and usable by employing wastewater treatment technologies that filter and treat the wastewater by removing contaminants such as sewage and chemicals.

Four common ways to treat wastewater include physical water treatment, biological water treatment, chemical treatment, and sludge treatment. Let us learn about these processes in detail.

#### **Physical Water Treatment**

In this stage, physical methods are used for cleaning the waste water. Processes like screening, sedimentation and skimming are used to remove the solids. No chemicals are involved in this process.

One of the main techniques of physical wastewater treatment includes sedimentation, which is a process of suspending the insoluble/heavy particles from the wastewater. Once the insoluble material settles down at the bottom, you can separate the pure water.

Another effective physical water treatment technique includes aeration. This process consists of circulating air through the water to provide oxygen to it. Filtration, the third method, is used for filtering out all the contaminants. You can use special kind of filters to pass the wastewater and separate the contaminants and insoluble particles present in it. The sand filter is the most commonly used filter. The grease found on the surface of some wastewater can also be removed easily through this method.

#### **Biological Water treatment**

This uses various biological processes to break down the organic matter present in wastewater, such as soap, human waste, oils and food. Microorganisms metabolize organic matter in the wastewater in biological treatment. It can be divided into three categories:

- Aerobic processes: Bacteria decomposes the organic matter and converts it into carbon dioxide that can be used by plants. Oxygen is used in this process.
- Anaerobic processes: Here, fermentation is used for fermenting the waste at a specific tegapenstupe. Oxygen is not used in anaerobic process.

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Composting: A type of aerobic process where wastewater is treated by mixing it with . sawdust or other carbon sources.

Secondary treatment removes most of the solids present in wastewater, however, some dissolved nutrients such as nitrogen and phosphorous may remain.

#### Chemical water treatment

As the name suggests, this treatment involves the use of chemicals in water. Chlorine, an oxidizing chemical, is commonly used to kill bacteria which decomposes water by adding contaminants to it. Another oxidizing agent used for purifying the wastewater is ozone. Neutralization is a technique where an acid or base is added to bring the water to its natural pH of 7. Chemicals prevent the bacteria from reproducing in water, thus making the water pure.

#### SludgeTreatment

This is a solid-liquid separation process where the least possible residual moisture is required in the solid phase and the lowest possible solid particle residues are required in the separated liquid phase,

An example of this includes dewatering of sludge from industrial wastewater or sewage plant where the residual moisture in dewatered solids determines the disposal costs and the centrate quality determines the pollution load returned back to the treatment facility. You need to minimize both.

A solid-liquid separation device such as a centrifuge is used for removing the solids from the wastewater,

Wastewater has a lot of impact on the natural world and it is important to treat it effectively. By treating wastewater, you don't just save the creatures thriving on it, but also protect the planet as a whole.



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# POLICY ON WATER CONSERVATION

# SIDDHANT COLLEGE OF PHARMACY SUDUMBARE PUNE.



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#### Water Conservation Policy

The consumption of water is very much every day. Therefore, from faculty to administration, staff, and students, takes a stand on fair access to drinking water, and conserves the precious resource that is also known as "blue gold". Water use efficiency planning can produce permanent and significant water savings leading to future development opportunities at siddhant college of pharmacy

#### I. Policy on water conservation

1. Reduce the wastage of water by fitting proper valves and arrest the leakages

2. Using suitable equipment, technology and systems to reduce the amount of water used

Recycle water to minimize the need to use more water and recycled water to be used for gardening.

 Watering to the gardening to be done in the morning or in the evening to reduce evaporation losses.

5. Sustainable storm water management practices, keeping gallons from the sewer system for recycling

6. Rainwater harvesting pits have been provided for improving the groundwater depth.

7. Faculty and students have been instructed use water economically.

8. Save water boards have been provided at different places to educate the students and staff.

9. Guest lectures and expert lectures have been arranged regularly on water conservation.

10. World water day, world environment day have been celebrated to imbibe the importance of water conservation.

11. Install flow control devices such as low-flow shower heads and flush valves.

12. Balance systems using once-through water to minimize flow rates, and operate these systems only when required.



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save Water in the Bathroom
frequently checking toilets for leaks
Installed water-saving shower heads or flow restrictors
Kept board near each taps 'Turn off water after use'
Installed low water capacity flush tank.
Save Water in the Kitchen and Laundry
Use your automatic dishwasher only for full loads
Use your automatic washing machine only for full loads
If you wash dishes by hand, don't leave the water running for rinsing
Don't let the faucet run while you clean vegetables
Frequently checking faucets and pipes for leaks

#### III Save Water Outside

Watering lawn only when it needs Deep soak the lawn - water long enough for the moisture to soak down to the roots Plant drought-resistant trees and plants that need less water kept a layer of mulch around trees and plants Use a broom, not a hose, to clean driveways and sidewalks Don't run the hose while washing vehicle



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2.Action taken reports and Achievement report as clean and green campus initiatives

#### Sumarry

The Siddhant of Pharmacy, Sudumbre continuously takes efforts for environmental sustainability, responsible use of resources and awareness initiatives for clean and green campus. Green campus initiatives by institute includes organization of Cleanliness Drive in association with the NSS unit, utilization of natural resources like rain water and energy, waste management using proper segregation techniques without harming the environment, Plantation in and around the campus in association with NSS Unit. Students and staff members participate in these initiatives with great enthusiasm. Green audit, energy audit and environment audit has been conducted by the institute regularly. Slogans on Energy Conservation, Water conservation, Conservation of Greenery have been placed by the institute within the campus to create awareness among the students and staff. These Strategies have been included in institutional planning in order to create a clean and environmentally friendly campus. This Report focuses on initiatives taken to promote environmental conservation, clean and green campus.

NSS department has organized various awareness programs in and out of the campus. Environmental promotion activity, awareness campaigns are encouraged to facilitate effective implementation of the Green Campus, Energy and Environment policies. On daily basis the sweepers clean the campus and toilet. Institute has sufficient staff for cleaning of classrooms, corridors, faculty rooms, laboratories etc. During pandemic situation the fumigation and sanitization of the campus is frequently carried out. In the pandemic period sanitization of a hand before entering to the college premises and checking temperature by digital temperature were practiced.



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# LIST OF DOCUMENTS

Sr. No.	Name of the Document
2	Action taken reports and Achievement report as clean and green campus initiatives
A	Academic Year 2022-2023
	International Environmental Day Celebration
	Seminar On Voter Awareness Programme
	National Pharmacy Week (World Pharmacist Day)
-	Celebration Of Founder Day(Tree Plantation)
	NSS Special Camp
	Tree Plantation
	Swachhata Pakhawada/ Cleanliness Drive
B	Academic Year 2021-2022
	Disaster Management By Surya Agency
	Covid 19 Vaccination Camp
	Mazi Vasundara Activity
	International Environmental Day Celebration
	Swacha Wari Nirmal Wari Harit Wari
	Swachhata Pakhawada/ Pandharawada
	NSS Special Camp
С	Academic Year 2020-2021
	Azadi Ka Amrut Mahotsav (Catch The Rain, Fit India Be Fit, Green Village Clean Village)
	Report Of Celebration Of Swacch Wari-Swasth Wari, Nirmal Wari Harit Wari
	International Environmental Day Celebration
	Celebration Of Founder Day(Tree Plantation)
D	Academic Year 2019-2020
	Report Of Swachchta Abhiyan Under Nirmal Wari, Harit Wari, Swacha Wari
	NSS Camp
	Report Of "Swatch Bharat Abhiyan"



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	Report For Tree Plantation At Road Side Under Nirmal Wari, Harit Wari, Swacha
E	Academic Year 2018-2019
	National Pharmacy Week
	Report Of Wari
	Report Of "Govar And Rubella Vaccination"
	Report Of "Swachchta Abhiyan"
	Report For Tree Plantation



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# INTERNATIONAL ENVIRONMENTAL DAY CELEBRATION

VENUE: Siddhant college of pharmacy

DATE :6 june 2022

**OBJECTIVE:-** Environmental day was celebrated for encouraging awareness and action for the protection of environment.

OUTCOME: People take action to spread awareness about the environment and also motivate others to do the same.

SUMMARY:-We Siddhant College of Pharmacy celebrate International Environmental Dayby Tree plantation, Environmental pledge on 06/06/2022 physically in college at 10.00 am and onward. Theme selected for the competition is "Only one earth." programme was initiated by Mrs. .swapnali girme and followed by Saraswati Vandana by Mrs Sunita Maharaj. Lightening of lamp performance by our college principal Dr R. K. Dumbre, HOD Dr Swati Deshmukh madam.100 student and 18 teaching participated in Environmental pledge and many student participated In other competition.we also planting tree in college premises. We are grateful to our Honorable Management for their timely support and also ourPrincipal Dr. R. K. Dumbre, HOD(UG) Dr. Swati Deshmukh and OS.Mr. NavnathGade guided us to conduct this program. And finally, the program was concluded by NSS activity Coordinator Ms. Swati kale madam by a vote of thanks.

## (Signature of the Member)

Mrs. SunitaShewalkar

(Signature of Coordinator)

Mrs. SwapnaliGirme (Social)

Ms. Swati Kale (NSS)

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#### SEMINAR ON VOTAR AWARENESS PROGRAMME.

DATE: 25/01/2023

#### VENUE: Biddhant college of pharmacy

**OBJECTIVE**. To encourage the voters to participate in the democracy by constling themselves in the Electoral Rolls and voting at the time of Election .

SUMMARY: Today we Siddhant college of pharmacy arrange seminar on Votar awareness programme. The programme was initiated by Mes Swapnali Gimme and followed by Saransoni Vandaras by Mes Samita Maharaj. Lightening of lamp performance by Our milege Pracipal De E.K.Dumber, HOD Dr Swati Deshenskh madam. The session was delivered by our today's speaker Miss payal parsare maslate. She tell about To ensure that people understand their right as vesters and exercise that right with full knowledge and responsibility, so finally she tell stadent about how much voting is important so do always voting. We are grateful to our Management for their timely support and also to our Principal Dr R. K. Dumber Sir and HOD(UG) De Swati Destimukh madam guided us to conduct this programme. The programme was concluded by Mrs Deepali Ginkwad by a vote of thanks.

fare (Signature of the member) Mrs. Sumia ShewalkarMrs. Swapnali Gime (Social)

(Signature of Coordinator)

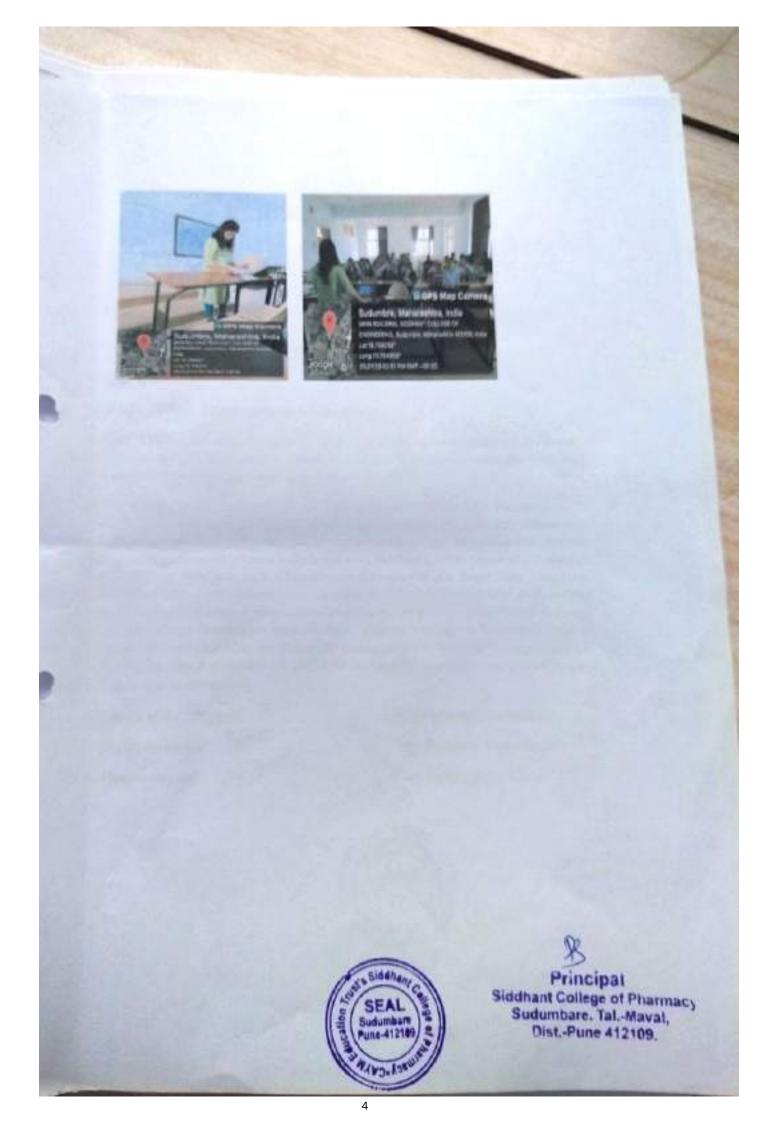
Haikel Mrs.Deepsli Gaikwad

Ma. Swati Kale (NSS)

PHOTOS: -



Principal Signant College of Pharmoney Sudumbare, Tal.-Mayar, Dist.-Pune 412109.





# Siddhant College of Pharmacy

A/P Sudambare, Talegam - Chaka Road, Tal: Maval, Dist: Pane -812109 Phone: 02114-661947, Email: siddhantcollegeofpharmacyte juhos.m, Website: www.siddhantcop.m

# NATIONAL PHARMACY WEEK (WORLD PHARMACIST DAY)

DATE: -27/09/2022

VENUE: siddhant college of pharmacy, sudumbre

OBJECTIVE: The main objective of NPW is to create awareness amongst the public, other healthcare providers and the authorities. To create awareness about the pharmacy profession and role of the pharmacist in general and is public.

SUMARRY :As per Pharmacy Council of India Siddhant College of D Pharmacy and B Pharmacy, Women Diploma College of Pharmacy conducted Pharma rally Street play and various competitions on the occasion of World Pharmacist Day. More than 100 students were actively participated. Pharma Rally began from Siddhant College premises to sudambre gaon In this rally Principals, Dr.R.K.Dumbre, Mr B.Mathdevru ,Mr .Sagar Kore , Teaching, Non-teaching staff , and students were actively participated. During rally students also shown street play and created awareness related Pharmacist profession and shown hoarding in prominent places in sudumbre gaon.We also planted saplings in Siddhant College of Pharmacy . We are greatful to our Honorable management for their timely support and our College Principal Dr.R.K.Dumbre Sir and HOD Dr.Swati Deshmukh madam guided students for participation in this activity.

(Signature of the Member Mrs. Sunita Shewalkar Suret

(Signature of Coordinator)

Mrs. Swapnali Girme (Social) Gare Ms. Swati Kale (NSS)

Principal Siddhant College of Phar Sudumbare, Tal.-Mava Dist.-Pune 412109

## PHOTO:-









Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109.





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Principal Siddhant College of Pharma Sudumbare. Tal.-Maval, Dist.-Pune 412109.



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### PLASTIC AWARNESS AND BETT BACHAO

VENUE: Siddhant college of pharmacy

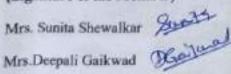
DATE :8 December 2022

OBJECTIVE:- This activity was conducted for encouraging awareness and action for the protection of environment and girl.

OUTCOME: People take action to spread awareness about the environment and beti bachao and also motivate others to do the same.

SUMMARY:-We Siddhant College of Pharmacy conducted awareness programme regarding beti bacho and plastic awareness in campus also. In this activity student prepared slogan and poster related to them .This activity performance to save environment by no use of plastic and save beti also. In this activity student as well as teaching and nonteaching staff participated. We are grateful to our Honorable Management for their timely support and also our Principal Dr. R. K. Dumbre, HOD(UG) Dr. Swati Deshmukh and OS.Mr. Navnath Gade guided us to conduct this program. And finally, the program was concluded by NSS activity Coordinator Ms. Swati kale madam by a vote of thanks.

(Signature of the Member)



(Signature of Coordinator)

Mrs. Swapnali Girme (Social)

Ms. Swati Kale (NSS)

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CAYM Education Trusts

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### CELEBRATION OF FOUNDER DAY

DATE:01/09/2022

VENUE: Siddhant college of pharmacy

**OBJECTIVE:** It is an opportunity to congratulate, and to honor their achievements, as well as for all of us to take visible, obvious pride in the college.

SUMARRY DESCRIPTION: Today we, Siddhant College of Pharmacy, Sudumbare Celebrate "Founder Day (01:09:2022)" The programme was initiated by Mrs SwapnaliGimme and followed by SaraswatiVandana by MrsSunitaMaharaj, Lightening of lamp performance by Our today's great Mr.Yadav sir, Dr.R.K.Dumbre sir, Dr. Rahul Khandagle sir, Dr. Swati Deshmukha Programe started by giving brief introduction by Mr. Sanju sir , about siddhant college of pharmacy. Mr yadav sir, Journey of yadav sir sinces 2004 to till. In this occasion various guest like Dr. Swati Deshnukh, Dr. R.K. Dumbre, Dr. Rahul Khandagle sir speak about institute and about yadav sir also. End of the session Mr. yadav sir give valuable information regarding struggle of sinddhant and him journey sinces 2004 to till date and inspire us positively and give best of lack for future. On this occasion we also planting treess. We are grateful to our Management for their timely support and also to our Principal Dr R. K. Dumbre Sir and HOD(UG) Dr Swati Deshnukh madam guided us to conduct this programme. The programme was concluded by Misa Swati Kale madam, with a vote of thanks.

(Signature of the Mem

Mrs. SuniaShewalkar

(Signature of Coordinator)

Mrs. SwapnaliGinne (Social)

Ms. Swati Kale (NSS 😪

Principal Siddhant College of Pharmacy Sudumbare, Tat, Maval, Dist, Pune 412109.

## PHOTOS:











Siddhant College of Pharmac, Sudumbare, Tal. Maval, Dist.-Pune 412109.



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### NSS SPECIAL CAMP 2022-23

: 15th Feb 2023 to 21st Feb 2023 DATE

VENUE : Khalumbre, TalukaKhed, Pune.

ORGANIZED BY : Miss. Swati Kale

NO. OF VOLUNTEERS PRESENT: 50

### OBJECTIVE:

understand the community in which they work, understand themselves in relation to their community, identify the needs and problems of the community and involve them in problem-solving, develop among themselves a sense of social and civic responsibility, utilize their knowledge in finding practical solutions to individual and community problems, develop competence required for groupliving and sharing of responsibilities, gain skills in mobilizing community participation, acquire leadership qualities and democratic attitudes, develop capacity to meet emergencies and natural disasters and practice national integration and social harmony.

### SUMMARY:

With the permission of NSS Dept, Savitribhai Phule Pune University, Pune, Siddhant College of Pharmacy organized seven days winter camp from 15th Feb 2023 to 21st Feb 2023at the Khalumbre village, Pune. Total fifty (50 nos.) students were enrolled for this camp on the basis of undertaking and NSS regular activity. In addition, teaching staff's and peons were assigned duties for the safety and security of the NSS volunteers. All NSS volunteers were divided into various groups and one member from each group was nominated as group leader for smooth conduct of camp activity. During this camp, various social activities were carried out in the village as per daily schedule. **Daily Schedule:** 

Time	Particulars
6 am- 6.30 am	Prayer
6.30 am -7.30 am	Exercise, NSS Song
7.30am - 8.30 am	Breakfast

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R.00am-12 pm	Daily Projects
12-2.00pm	Lunch and Rest
2.00 -3.00pm	Planning ofnext activity
3.00-4:30 pm	Tea time
4:30 pm -5:00pm	Shivar feri
5.0g - 6.00 pm	Seminar
6.00-7.30 pm	mental strengthgames
7.30 -9.30 pm	Dinner
9.30pm - 10.00 pm	Share daily experience
16.00- 5.00 pm	Good night

Day	DailyProject
Day1	Inauguration,tree plantation
Day2	Health check up camp
Day3	Women empowerment Street play
Day4	Gram Swaechta Abhiyan
Day5	Gram survey, voting card adhar card link camp
Day6	Rally on various social issues, rangoli competition
Day7	Shivar rally, Valedictory function











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Google



## GPS Map Camera

Khalumbre, Maharashtra, India PQJM+RJH, Khalumbre, Maharashtra 410501, India Lat 18.731983° Long 73.784267° 21/02/23 02:37 PM GMT +05:30

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#### CAVER Education Trusts

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#### TREE PLANTATION

DATE : 30 August 2022

VENUE : SGI campus

### NUMBER OF VOLUNTEER PARTICIPATED: 50

OBJECTIVE: Trees contribute to their environment over long periods of time by providing oxygen, improving air quality,

OUTCOME: for maintaining the balance of the nature.

MAIN DESCRIPTION:On date of 30<sup>th</sup> August 2022 we NSS department of SCOP, SUDUMBARE punningained TREE plantation event at SGI campus on 3.00 pm under sweechavariawanthyariharityarinirmalyari.

Total 50 students actively participated in tree plantation.We planted ashoka, neem, jamun, mango, papaya planta in campus area.

Firstly nus volunteer took efforts to clean area for tree plantation, then first tree planted by college executive director Dr. Akhilesh Sharma sir, Dr. Rahul dumber sir Principal SCOP. During tree plantation Mr. Mathdevru sir principal Diploma Pharmney guided us about importance of medicinal plant as Home remedies.

All students participated in acticity and near about 10 trees planted in campus. Mr. NavnathGade sir, Mrs. DeepaliGaikwad and Miss. ShubhangiThopate mam supported and guided students to do event successful.

Mins. Swati Kale Nes program officer took initiative to do Tree plantation. Mr. Vijay Gaikwad and Mr. Harish Naiknawremade end this event by vote of thanks.

PHOTO:



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Siddhant College of Pharmacy

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# SWACHHATA PAKHAWADA/ Cleanliness drive

DATE

:19/10/2022

VENUE

: College campus, sudavadi village, sudumbare village

## NUMBER OF VOLUNTEER PARTICIPATED:100

OBJECTIVE: to build sanitary facilities for all households, To eliminate or reduce open defecation

OUTCOME: India is open defecation-free, homes have toilets, houses have access to clean

and drinkable water and our cities are getting cleaner each day

## MAIN DESCRIPTION:

"Swachhta has been recognised and accorded top priority by the government of India. Hygiene and hygienic practices in life are critical for health not only to improve a living environment but also to elevate our thinking to a more pure and healthy state.A huge population base and varying education and awareness levels do not promote a secure hygienic environment and hence this is a major challenge. Lack of hygiene in habits negatively impacts the country's progress to global benchmarks in all spheres and also impacts the working population.

The Department of Higher Education decided to embark on the mission through the standard operating procedure on Swachhta for its Institutions setting forth practices that must be educational SwachhataPakhwada are monitored closely using online monitoring system of SwachhataSamiksha where action plans, images, videos related to Swachhata activities are uploaded and shared.

In this regard, our college organized the below mention events as per the date given below.



rincipal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109

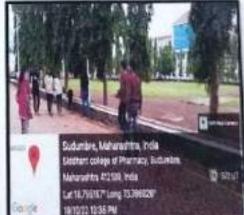
NSS department as per SPP17 circular organised clean drive camp on 19 october 2022 near college campus, at indumbire village, 100 mis volunteers participated in it. We cleaned village. Sudombaregrampanchayat helped us to destroy collected plastic. Ms. Swati Kale man took initiate to organized this camp.





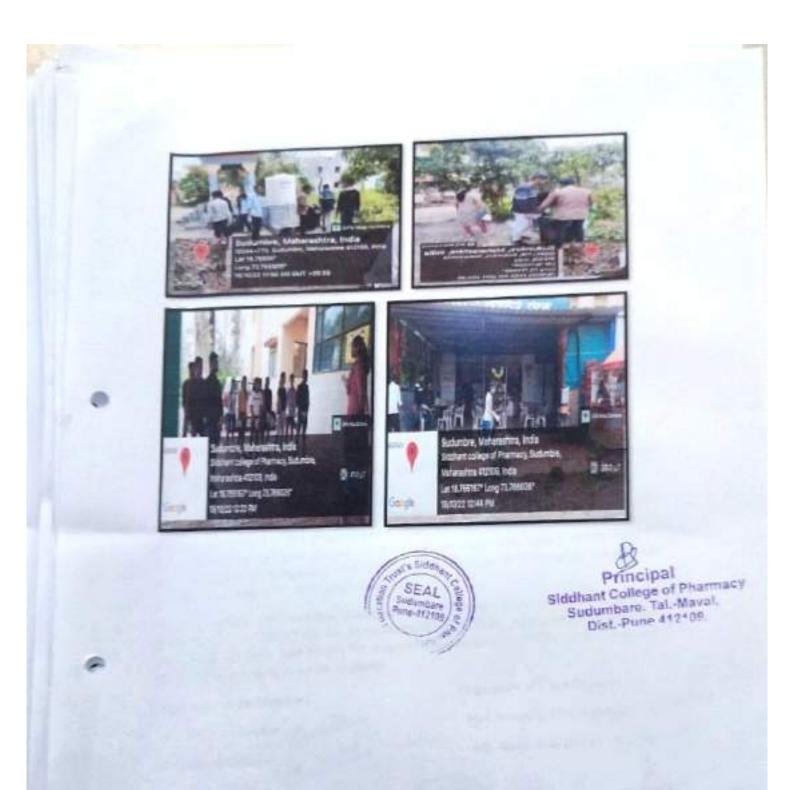


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### DISASTER MANAGEMENT BY SURYA AGENCY

### DATE: -24/12/2021

VENUE: Seminar hall of siddhant college of pharmacy.

OBJECTIVE: To reduce the risk of disasters caused by human erroe, deliberate destruction, and building or equipment failure.

SUMMARY: Siddhant College of Pharmacy, Organize the seminar on Disaster Management program. The program was initiated by Mrs. Deepali Gaikwad followed by lightning of lamp by Guest speaker Mr. Sandip Ravut ,Surya Gas agency chinchwad . He give information to all regarding what is Disaster Management And how we should take care of that and save our life , which precaution taken .

We are grateful to our Honorable Management for their timely support and also ourPrincipal Dr. R. K. Dumbre, HOD(UG) Dr. Swati Deshmukh and OS.Mr. NavnathGade guided us to conduct this program. And finally, the program was concluded by NSS activity Coordinator Ms. Swati kale madam by a vote of thanks.

### (Signature of the Member)

Mrs. Sunita Shewalkar Sund Mrs.Deepali Gaikwad

#### (Signature of Coordinator)

Mrs. Swapnali Girme (Social)

Ms. Swati Kale (NSS)

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Principal Siddhant College of Pharmac-Sudumbare. Tal.-Maval, Dist.-Pune 412109.

### РНОТО:-











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### COVID 19 VACCINATION CAMP

DATE

: 31th August2021, 7th September 2021, 13th September 2021,

2nd Jan 2022, 27th Oct 2021.

VENUE

: Z.P. School of Sudumbare, Asmita Bhavan, Siddhant college

of pharmacy.

### NUMBER OF VOLUNTEER PARTICIPATED: 50

### **OBJECTIVE:** Protect other self from covid 19

SUMMARY: As per the suggestions of Dr. Rahul Dumbare sir, Principal sudumbare and administrative department of SCOP sudumbare to provide timely benefits of corona vaccine to more and more people. We NSS Department were organized Vaccination camps on 31th August 2021, 7th September 2021, 13th September 2021, 27th Oct 2021 and 2th Jan 2022 at Z.P. School of Sudumbare, Asmita Bhavan, Siddhant college of pharmacy. This vaccination camps were organized for the persons aged 18 years and above members participated and got immunization done. 1548 people were vaccinated under this camp, which was encouraging for the organizers of the camp. NSS volunteers played an important role in making this camp a success.

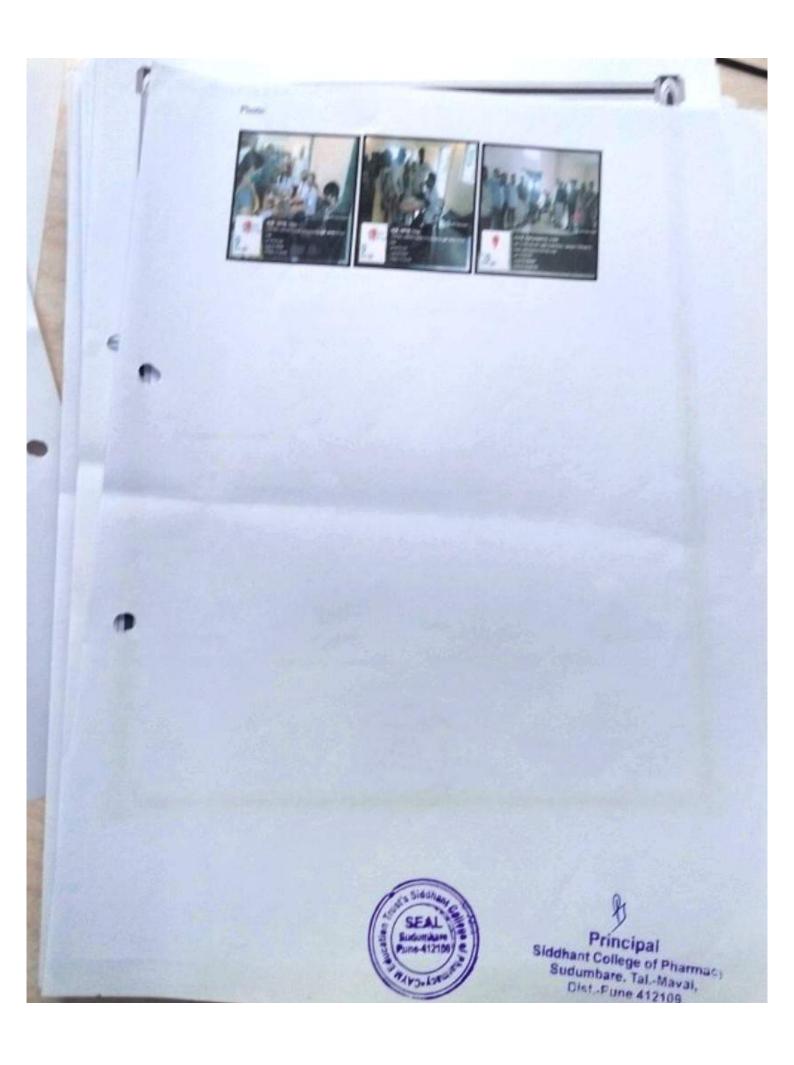
(Signature of the member) Mrs. Sunita Shewalkar Sunts

(Signature of Coordinator)

Mrs. Swapnali Girme (Social) Ms. Swati Kale (NSS)



Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, ni-+ .Pune 412109.





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### Siddhant College of pharmacy

Sudumbre, Pune

### MAZI VASUNDHARA ACTIVITY

(Social Activity Committee 21-22)

Date: 09 / 10 / 2021

#### Members of Committee:

- a) Ms. Swati Kale
- b) Mrs. Deepali Gaikwad
- c) Mrs. SunpualiGinne

Signatures:

6

Prepared by

(Ms. Swati Kale)

Checked by

(Dr. Swati Deshmukh)

IQAC coordinator

Principal

(Dr. Swati Deshmukh) (Dr.R.K.Dumbre)



Principal Siddhant College of Pharman Sudumbare, Tal.-Maval, Dist.-Pune 412109



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## MAZI VASUNDHARA ACTIVITY

DATE :09/10/2021

VENUE : Online

NO. OF PARTICIPANT:100

**OBJECTIVES** : The Environment and Climate Change Department, Govt. of Maharashtra has taken up a holistic initiative, Majhi Vasundhara (My Earth ), to make citizen aware of the impacts of climate change and environmental issues and to encourage them to make a conscious effort towards the improvement of the environment.

SUMMARY: Siddhant college of pharmacy NSS volunteers participated in maziVasundhara activity. They took pledge for MaziVasundhara. Thentheyregistered and get certificate, also on date 10/ 10/ 2021 all nss volunteer planted 2 trees near their home. They all were uploaded certificate and tree plantation photo on link which provided by NSS, SPPU.

(Signature of the member)

Mrs. SunitaShewalkar Suntt

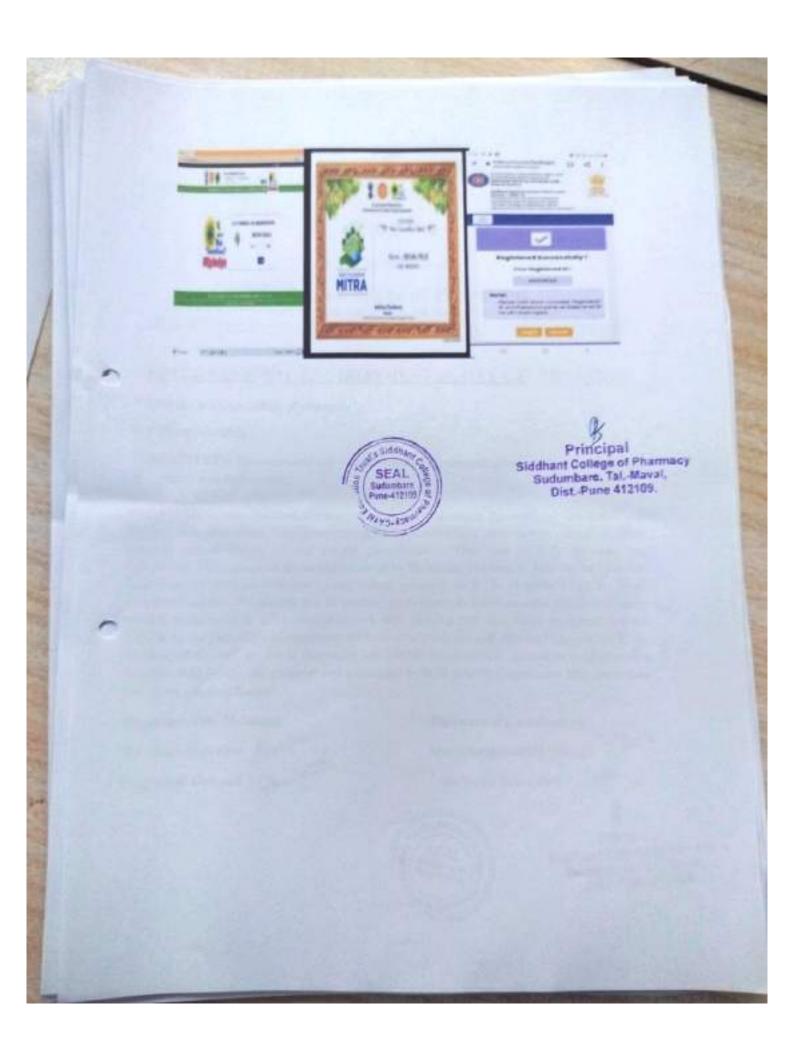
(Signature of Coordinator)

Mrs. SwapnaliGirme (Social)

Ms. Swati Kale (NSS)

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## INTERNATIONAL ENVIRONMENTAL DAY CELEBRATION

VENUE: Siddlant college of plannacy

DATE :6 june 2022

**OBJECTIVE:**- Environmental day was celebrated for encouraging awareness and action for the protection of environment.

SUMMARY:-We Siddhant College of Pharmacy celebrate International Environmental Dayby Tree plantation, Environmental pledge ,on 06/06/2022 physically in college at 10.00 am and onward. Theme selected for the competition is "Only one earth." programme was initiated by Mrs. .swapaali ginne and followed by Saraswati Vandana by Mrs Sunita Maharaj. Lightening of lamp performance by our college principal Dr R. K. Dumbre, HOD Dr Swati Deshmukh madam 100 student and 18 teaching participated in Environmental pledge and many student participated In other competition.we also planting tree in college premices. We are grateful to our Honorable Management for their timely support and also ourPrincipal Dr. R. K. Dumbre, HOD(UG) Dr. Swati Deshmukh and OS Mr. NavnathGade guided us to conduct this program. And finally, the program was concluded by NSS activity Coordinator Ms. Swati kale madam by a vote of thanks.

#### (Signature of the Member)

Mrs. SunitaShewalkar

Mrs.Deepali Gaikwad Dailord

(Signature of Coordinator)

Mrs. SwapnaliGirme (Social)

Ms. Swati Kale (NSS)

Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist-Pune 412109.

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## РНОТО:-









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CAVM Education Trusts

## Siddhant College of Pharmacy

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Phone: 02114-00	SWASTH WARL NIRMAL WARI HARIT WARI
EVENT	Cleanliness Drive Programmear Temple and Tree Plantation
DATE	1 24 July 2021 and 27 July 2021
VENUE	: Neur volunteer home, College campas, Vadeshwar gat no 254

## NUMBER OF VOLUNTEER PARTICIPATED: 50

OBJECTIVE: To clean surrounding area and to maintain it healthy. Trees contribute to their environment over long periods of time by providing oxygen, improving air quality.

SUMMARY: We had organized tree plantation and cleaning near temple under Swach Wari-Swasth Wari, Nirmal Wari-Harit Wari at college campus and near student home, students participated to clean surroundings of temple and the arua near the Temple. Total 50 nss volenteers and College staff actively participated in tree plantation. Tree plantation done near home town area due to covid purdemic situation.

(Signature of the NSS Coordinator)

Miss Swati Kale

#### PHOTOS





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CAYM Education Traists

## Siddhant College of Pharmacy

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### SWACHHATA PAKHAWADA/ PANDHARAWADA

DATE

:1" August 2021-15th August 2021

VENUE :Conducted virtually mode due to pandemic situation. / Offline

## NUMBER OF VOLUNTEER PARTICIPATED:100

**OBJECTIVE**: Swachhata Pakhwada started in April 2016 with the objective of bringing a formight of intense focus on the issues and practices of Swachhata by engaging GOI Ministries/Departments in their jurisdictions. Provide guidance to institutions on various aspects of Swachhata for a clean and green campus. Baild swachha skills in students and ensure they take ownership of maintaining Swachh campuses.

#### SUMMARY:

"Swachhta has been recognised and accorded top priority by the government of India. As per sppu circular we uss department conducted various events on the occasion of swehhata pandharwada as follows;

Sr No		Date and link of Competition	Speaker Name/ Participant's
1	SwachhataOath(Seminar on cleanliness and Hygiene)	01/08/2021	Mr.BasavrajMathdevru (Principal,SCOP Diploma)
2	Cleaning in Institute(Class room, Campus, Loans, Library, Laboratory)	02/08/2021 to 06/08/2021	NSS Volunteers
3.	Cleaning in Village (Gram punchayat, school, hospital)	12/08/2021	NSS Volunteers
4	Slogan Competition on swachhata <u>https://forms.gle/Xz</u> //Tep3o5N6692db	13/08/2021	All student
5	Seminar on Swachh Bharat, Sundar Bharat	15/08/2021	Dr. Rahul Dumbre (Principal SCOP)

The whole program was conducted by NSS Co-coordinator Miss Swati kale madam and NSS member Mrs. Swapnali Girme and Mrs.Deepali Gaikwad.This program is successfully conducted under guidance of Our Principal air Dr. R. K. Dumbare air, HOD of Dr. Swati Deshmukh madam.

1004

(Signature of the NSS Coordinator)

Miss Swati Kale

Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109.









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Siddhant College of Pharmacy

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Phone: 02114-061947, Email: Soldhaetcollegae/pharmacy/cyshoo.is Website: www.oddhaetcop.in

### NSS SPECIAL CAMP 2021-22

DATE : 25th Feb 2022 to 3th March 2022

VENUE : Khalumbre, Taluka Khed, Pane.

ORGANIZED BY : Miss. Swati Kale, Mrs. Deepali Gaikwad, Ms. Shubhangi Thopate.

NO. OF VOLUNTEERS PRESENT:50

#### OBJECTIVE:

understand the community in which they work, understand themselves in relation to their community, identify the needs and problems of the community and involve them in problem-solving, develop among themselves a sense of social and civic responsibility, utilize their knowledge in finding practical solutions to individual and community problems, develop competence required for groupliving and sharing of responsibilities, gain skills in mobilizing community participation, acquire leadership qualities and democratic attitudes, develop capacity to meet emergencies and natural disasters and practice national integration and social harmony.

### MAIN DESCRIPTION:

With the permission of NSS Dept, SavitribhaiPhule Pune University, Pune, SiddhantCollege of Pharmacy organized seven days winter camp from 25<sup>th</sup>feb - 03 of march 2022 at the Khalumbre village, Pune. Total fifty (50 nos.) students were enrolled for this camp on the basis of undertaking and NSS regular activity. In addition, teaching staff's and peons were assigned duties for the safety and security of the NSS volunteers. All NSS volunteers were divided into various groups and one member from each group was nominated as group leader for smooth conduct of camp activity. During this camp, various social activities were carried out in the village as per daily schedule.

### Daily Schedule:

Time	Particulars	1. 1. 1.
6 am	GoodMorning	aller and the
6.30 - 7 am	Prayer&Exercise,NSSSong	
7 -7.30am	Breakfast	

Siddhant College of Pharmad Sudumbare, Tal.-Maval, Dist.-Pune 412109.

0.00am-12 pm	DailyProjects	
1.2 - 2.00pm	Lowh and Rest	
2.00-3.00pm	Flanningsificentactivity	
3.00-5.00 pm	Cleaning	1
5:00-6:00pm	Seminar	1
6:00 - 7.30pm	mental strengthgames	1
7.341-8.36 pm	Diener	
8.30-10.00 pm	Cidnoral Programmedi Meetingo/NSSprogrammeofficerwithgroupleaders	1
10.00-10.30 pm	Share daily experience	1
10.30	Good night	1

Day	DailyProject
Day1	Insuguration, tree plantation
Day2	Baselinesurveyofvillage
Day3	Women empowerment Streetplay
Day4	Rangoli competition
Day5	Gram SwacchtaAbhiyan
Dayfi	Rallyonvarioussocialissues, Healthcheckupcamp
Day7	Shivar rally,Valedictoryfunction

(Signature of the Member)

Mrs. SunitaShewalkar

Mrs.Deepali Gaikwad

(Signature of Coordinator) Ms. Swati Kale (NSS) Mrs. Swapnali Girme (Social)

### 1. Inauguration& Tree plantation-

Siddhant College of Pharmacy organizes the NSS program in the KhalumbreVillege on the 25.02.2022-03.03.2022. Firstly inauguration was done by dignitariesSarpanch Mrs. SonaltaiBotre ,Sarnajbhushan Shree SandipbhauBotre. SCOP principal Dr. Rahal Dumbre sir, Registar Mr. NavnathGade, Program Officer Prof. Swati Kale, NSS member Prof. ShubhangiThopate, Prof. Deepali Gaikwad, Non teching staff Mr. Mahendrachavhan, Mr. AmrutGade, Mr. Gholap and nasvolenteers. After inauguration tree plantation was done. In the evening our guest speaker Dr. Prachi Rahal Bhosale nicely explained the health, hygiene, nutrition and women health problem such as PCOD, Thyroid etc. Total 25 girl and 25 boy'sstudents were present during lecture and also localized village women's also listen the lecture. All programs were nicely arranged by Prof. Swati Kale ma'am. Program was concluded by vote of thanks by Prof. Mrs. Deepali Gaikwad ma'am.



Principal Siddhant College of Pharmaci Sudumbare, Tal, Mayal, Diet Bonna



## 2. Villagesurvey:

On 26.02.2022 at 10:00 am students did the "Gram-sarvekshan" on the Health and Diseases. In the evening Mr. MahadevWaghmare Sir delivered the lecture on "What is the importance of Joke in Our Life". All the students and the village people actively listen in the lecture. Waghmare Sir nicely tell the importance of jokes in stress release therapy.





## 3. Pulse polio camp and Women empowerment Streetplay

At morning session 27 feb 2022, students performed the skit on Save Girl Child and Eradication of Blind Faith. The Motive of this theme is too aware the peoples. Then our NSS volunteers also did work with arogyaupkendra staff to give pulse polio for khalumbre village's children. They mark the houses those are vaccinated with pulse polio. Our guest speaker Mr.SandeshChopadekar sir nicely explained the topic Social media a challenge. Different types of media platforms on the fourth day of the NSS program at 05:00 pm. Total 50 students were present during lecture and also localized villagers also listen the lecture. Guest lecture was nicely arranged under the guidance of Registar Mr. NavnathGade sir.



### 4. AzadikaAmrutmahotsav: Rangoli competition

Rangoli competition was organized on the fourth day of the NSS program (28.02.2022) at 09:00 am. 25 participants were present. All rangolis were beautifully drawn &coloured by the participants. Rangoli looked very realistic. Competition was judged by HOD Dr. Swati Deshmukh madam, guest speaker Mr. Pravin More sir & NSS-co-ordinator Prof. Mrs.SunitaMaharaj)First winner



Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109. is Harshad a &Rajnandini, Second winner is Janhavi&Shravani, Third winner is Pallavi&Tanuja and Participation prize goes to Akshada&Aishwarya. The competition was well organized under the guidance of Prof. Swati kale madam. Our guest speaker Mr.VishalDarekar sir nicely explained the need of Jaiviksheti. Use of green manures to increase the crop yield on the fourth day of the NSS program (28.02.2022) at 5:00 pm. Total 50 students were present during lecture and also localized villagers also listen the lecture.



### 5. Gram swachataabhiyan

Our guest speaker Mr. SachinDollare sir nicely explainedabout the cybercrimes and cyber laws. On the fifth day (01.03.2022) of NSS camp at 05:00 pm. And in morning session Students were goes to PrabhatPheri and aware the Village peoples about the cleaning and also done cleaning in the village. Total 50 students were present during lecture and also localized villagers also listen the lecture. Guest lecture was nicely arranged under the guidance of RegistarNavnathGadhe sir and respected Principal Dr. Rahul Dumbre Sir.





## 6. Rallyonvarioussocialissues, Healthcheckupcamp

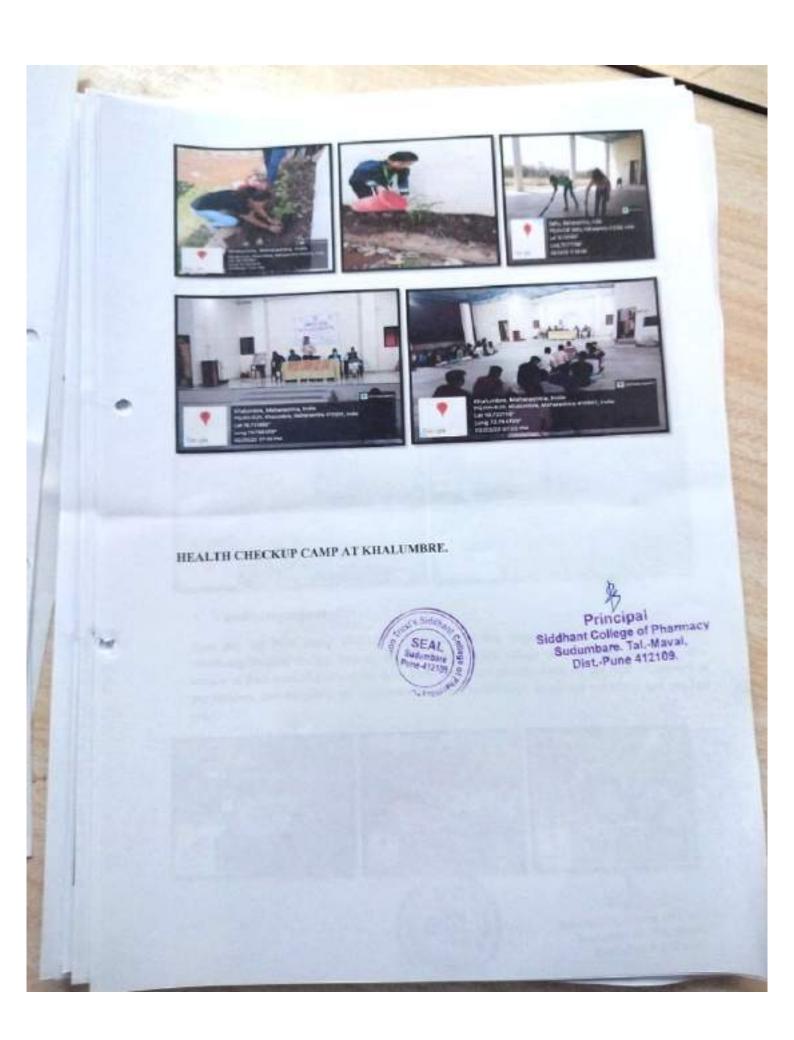
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Six day 02/03/2022 5 nss volunteers divided in three groups for health checkup, tree plantation and cleaning of temple. From morning 10 am health check up camp started collaborated with arogyavibhag at khalumbre grampanchayat, in this blood pressure, weight, blood group, and hemoglobin were checked. First women of khalubreSarpanchSonaltai did her check up firstly. Near about 40 villages took benefits of camp. Next group planted 20 trees in temple area, also cleaned temple too.At evening of 02/03/2022, Mr. Sanju Mohan sports in-charge SCOP visited in NSS camp and guided to students about yoga, physical fitness and motivated us to do more social work.





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## 7. Valedictoryreport

Last day of NSS camp 03/03/2022 At the morning yoga session conducted by Prof. Shubhang/Thopate ma'am then all nss volunteers visited village area and met people to took review of their work did in last six days. They happy and proudly feels we are NSS volunteers as per reviews, and definitely nss volunteers did great social work in special nss camp (not me but you).



After lunch all NSS volunteers and dignitaries come together for wind up day. Firstly all dignitaries did deep prajwalan with nss song and our national anthem. Felicitation done by staff of SCOP, Guest appreciated best nss volunteer Mr. KumalDhamdhere and competition winners by giving them certificate, after that volunteers share their 7 days experience, guest of honor Mrs. SonaltaiBotre& Dr. Rahul Dumbre (Principal) share few words as a guidance. In program we congratulated Mrs. Deepali Gaikwad for her success. Her Pharmaceutical Biotechnology book was published. At the end Program officer Prof. Swati Kale gave vote of thanks.







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## Appriciation letter from Grampanchayat KHALUMBRE for special NSS camp 2021-22





**CAYM Education Trusts** 

## Siddhant College of Pharmacy

A/P Sudumbare, Talegaon --Chaka Road, Tal: Maval, Dist: Pune -412109 Phone: 02114-661947, Email: siddhantcollegeofpharmacy@yahoo.in, Website: www.siddhantcop.in

### AZADI KA AMRUT MAHOTSAV

## (CATCH THE RAIN, FIT INDIA BE FIT, GREEN VILLAGE CLEAN VILLAGE)

DATE

: 8th August 2021, 13th August 2021, 2nd October 2021

VENUE

: Semi-Online MS team

NUMBER OF VOLUNTEER PARTICIPATED: 100

**OBJECTIVE:**To make aware and educate volunteers, families, village communities, vouth leader on issues and need of water harvesting.

To encourage and promote fitness culture and spirit of sportsmanship among rural youth to adopt it as a way of life

To make aware and motivate students the need and importance of cleanliness, greenery and non-use of plastic material.

### SUMMARY:

As per SPPU circular Under AzadikaAmrutmahotsav we NSS department of SCOP conducted various events on 8<sup>th</sup> August 2021, 13<sup>th</sup> August 2021, 2<sup>nd</sup> October 2021. Drawing competition on theme "Catch the rain", Seminar on "Fit India be fit" by Mr. Sanju Mohan, Physical Director, Siddhant college of Pharmacy and also another seminar on Green Village, Clean Village by Dr. Rahul Dumbare sir, Principal Siddhant college of Pharmacy shared their valuable views with message "Sense of accounting towards surrounding". Then Mrs. Deepali mam, Assistant professor SCOP, Miss. Shibhangi Mahajan (Our Final year student) also gave their thoughts on plastic awareness and green village. Total 100 student participated in the program. At the end vote of thanks given by Miss. Swati Kale, NSS coordinator.



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## (Signature of the member)

Mrs. Sunita Shewalkar Gundt Mrs.Deepali Gaikwad Der 110

#### PHOTO:

## (Signature of Coordinator)

Mrs.Swapnali Girme (Social)

Ms. Swati Kale (NSS)







Principal Siddhant College of Pharmac; Sudumbare, Tal.-Maval, Dist.-Pune 412109.



#### CAYM Education Trusts Siddhant College of Pharmacy A/P Sudumbure, Talegnon -Chakan Road, Tal:Masal, Dist: Pune -412109

A/P Sudambare, Talegion - Caasan Rood, Talevineet, Universite: www.aiddhantcop.in Phone : 02114-661947,Email: aiddhantcollegeofpharmacy@cyaboo.in,Website: www.aiddhantcop.in

#### SUMARRY REPORT

## REPORT OF CELEBRATION OF SWACCH WARI-SWASTH WARL NIRMAL WARI-HARIT WARI

DATE :29<sup>th</sup> June 2020 To 6<sup>th</sup> July 2020. VENUE : Near volunteer home, College campus Number of Volunteer participated: 50

**OBJECTIVE:** Trees contribute to their environment over long periods of time by providing oxygen, improving air quality, climate amelioration, conserving water, preserving soil, and supporting wildlife.

SUMMARY: With the Direction of NSS Department, SavitribaiPhule Pune University, Pune, Ms- KanchanShantaramBhalerao Siddhant college of Pharmacy College Pune had organized state level SPPU & NSS virtual wari 2019-2020 under this various Activity performed like Swachhwari ( cleanness activity, Awareness of covid -19), Swastawari, Blood donation Awarness, Haritawari (tree plantation), Nirmalwari (Spitting awareness) activity performed byNSS Volunteers under NSS department at their own place and surrounding places from 29<sup>th</sup> June 2020 To 6<sup>th</sup> July 2020. In this activity 50 student participated. Tree plantation is important uspect because Tree plantation is significant because it is linked to our basic need for good food to eat and clean air to breathe. Aside from these necessities, they preserve biodiversity, conserve water, preserve soil, and control climate, among other things. From our college most NSS volunteers were enrolled for this Awareness Program on the basis of undertaking and NSS regular activity. In addition, teaching staff's Guided the NSS volunteers for different activities.



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"The 'Swachhwari- Swasth Wari- Nirmal Wari -Haritwari' campaign is important for maintaining the balance of the nature. The efforts taken by the national service scheme (NSS) students for making the record of distribution, planting and caring of the Neem saplings (AzadirachtaIndica) and registering it with Guinness Book of World Record had brought the name of India on the global map. All those who have participated in this campaign had created history".

All the activity report has been uploaded on SPPU Facebook page.







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CAVM Education Trusts Siddhant College of Pharmacy A/P Sudambare, Talegaon - Chakan Read, Tal. Marval, Di





Other student's activity report link:

https://m.facebook.com/story.php?story\_fbid=175048917323999&id=101401061355452

(Signature of Coordinator)

Harchon

Mrs. KanchanBhalerao

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**CAYM Education Trusts** 

## Siddhant College of Pharmacy

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## SUMMARY REPORT

## (INTERNATIONAL ENVIRONMENTAL DAY CELEBRATION)

VENUE: Virtually due to Covid-19

DATE :5th June 2021

OBJECTIVE:-Environmental day was celebrated for encouraging awareness and action for the protection of environment.

#### SUMMARY:-

NSS unit of Siddhant College of Pharmacy on occasion of International Environmental Day organized aslogan writing competitionandtheme selected for the competition is "Ecosystem Restoration". Competition will be conducted on 05/06/2021 so submission will allow till 07/06/2021. Whole Programme was conducted virtually due to Covid-19 Pandemic situation. We are very thankful to the Management Siddhant group of Institution, respected Principal Dr.R.K.Dumbre Sir& HOD.Dr.Swati Deshmukh mam for their guidance and support to made the event successful. Programme was successfully co-ordinated by Nss officer Ms.RaniB.Divekar&Mrs.SwapnaliGirame member of NSS. Total 30 student participated in slogan writing competition. Evaluator selected 3 best slogan from which first prize awarded to Mr.Heramb Bonde, second prize awarded to Ms.Dipti Jambulkar& 3 prize awarded to Ms.MadhuraPachpind.

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(Signature of the member) Mrs.Swapnali Girme

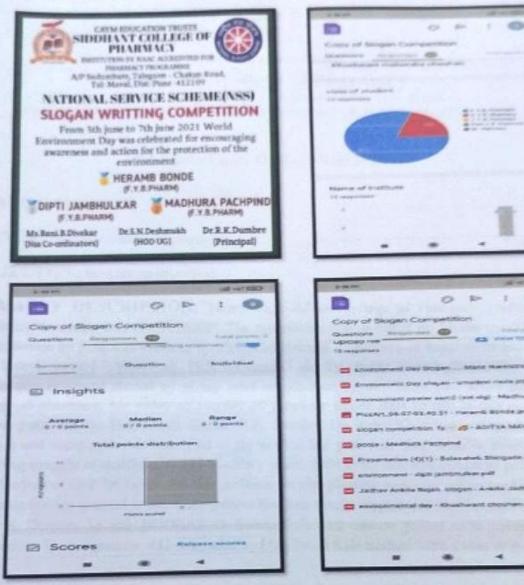
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(Signature of Coordinator) Mrs.Rani Divekar(NSS)



Principal Siddhant College of Pharma Sudumbare, Tal.-Maval, Dist.-Pune 412109.

#### Photos of Event





Principal Siddhant College of Pha Sudumbare, Tal.-May Dist.-Pune 412109

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## **CAYM Education Trusts** Siddhant College of Pharmacy

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#### CELEBRATION OF FOUNDER DAY

DATE:01/09/2020

VENUE: Siddhant college of pharmacy

**OBJECTIVE**: save our environment

SUMARRY DESCRIPTION: Today we, Siddhant College of Pharmacy, Sudumbare Celebrate "Founder Day (01/09/2020)" The programme was initiated by MrsSwapnaliGirme and followed by SaraswatiVandana by MrsSunitaMaharaj. Lightening of lamp performance by Our today's guest Mr.Yadav sir, Dr.R.K.Dumbre sir, Dr. Rahul Khandagle sir, Dr. Swati Deshmukha.Programe started by giving brief introduction by Mr. Sanju sir , about siddhant college of pharmacy, Mr yadav sir, Journey of yadav sir sinces 2004 to till. In this occasion various guest like Dr. Swati Desh, ukh, Dr. R.K. Dumbre, Dr. Rahul Khandagle sir speak about institute and about yadav sir also. End of the session Mr. yadav sir give valuable information regarding struggle of sinddhant and him journey sinces 2004 to till date and inspire us positively and give best of luck for future. On this occasion we also planting treess by online mode due to pandamic.We are grateful to our Management for their timely support and also to our Principal Dr R. K. Dumbre Sir and HOD(UG) Dr Swati Deshmukh madam guided us to conduct this programme. The programme was concluded by Miss Swati Kale madam with a vote of thanks.

(Signature of the Member)

Mrs. SunitaShewalkar Sunit Mrs.Deepali Gaikwad Bailwood

#### PHOTOS:

#### (Signature of Coordinator)

Mrs. SwapnaliGirme (Social)

Ms. Swati Kale (NSS Jole



Siddhant college of pharmacy ,Pune B-49 NSS UNIT

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Principal Siddhant College of Phana PCV Sudumbare, Tal. Mava, Dist. Pune 412109.

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY SUDUMBARE

## REPORT OF SWACHCHTA ABHIYAN UNDER NIRMAL WARI, HARIT WARI, SWACHA WARI

#### Date-02/-8/2-19

Siddhant College of Pharmacy conducted the "Swachhata Abhiyan" in the Dehu Gaon village for the good health of human and to avoid the infections like dengue and other mosquito and insect generated diseases.



Students from our college clean the road of the Dehu gaon village as well as they removed the harmful materials like plastic.





Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109 Swachchta Abhiyan event with the students and NSS coordinator Team.



After successfully completion of Swachhata Abhiyan" in the Dehu Gaon village, article come in Lokmat News Paper.



The activities created the impact on their mind regarding cleanliness and keep surrounding areas clean to prevent disease and make good health.

NSS Coordinator



pai Siddhant College of Pharma Sudumbare, Tal.-Maval, Dist.-Pune 412109.

## SIDDHANT COLLEGE OF PHARMACY, SUDUMBARE PUNE-09 NSS Special Camp Report 2019-2020

With the permission of NSS Department, SavitribaiPhule Pune University, Pune, Ms- Kanchan ShantaramBhalerao&Ms-SwapnaliGirme Siddhant college of Pharmacy College Punehas organized NSS special Winter Camp from 16 th January 2020 to 22 January 2020at the village Kanhe, Pune. Totalfifty (50) NSS volunteers were enrolled for this camp on the basis of undertaking and NSS regular activity. In addition, teaching staff's and peons were assigned duties for the safety and security of NSS volunteers. All NSS volunteers were divided into various groups and one member from each group was nominated as Group Leader for smooth conduction of various camp activities.

During this camp, various social activities were carried out in Kanhevillage as per daily schedule mentioned bellow.

#### Daily Schedule for NSS Camp

Time	Particulars	-
6 am	Good Morning	_
6.30 - 7.15 am	Prayer & Exercise, NSS Song	
7.15 - 8.00 am	Breakfast	
8.00 am - 1:30pm	Daily Projects	
1.30 - 2.30 pm	Lunch	
2.30 - 4.00pm	Rest and Planning of next activity	
4.00 - 5:30 pm	Seminar	
5:30 - 7:30 pm	Recreational Activity	
07.30 - 9pm	Cultural Program me	
9 – 10.00 pm	Dinner	
10.00 - 10.30 pm	Meeting of NSS program me officer with group leaders	
0.30 pm	Good night	

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Principal Siddhant College of Pharm Sudumbare, Tal.-Mavai, Dist.-Pune 412109.

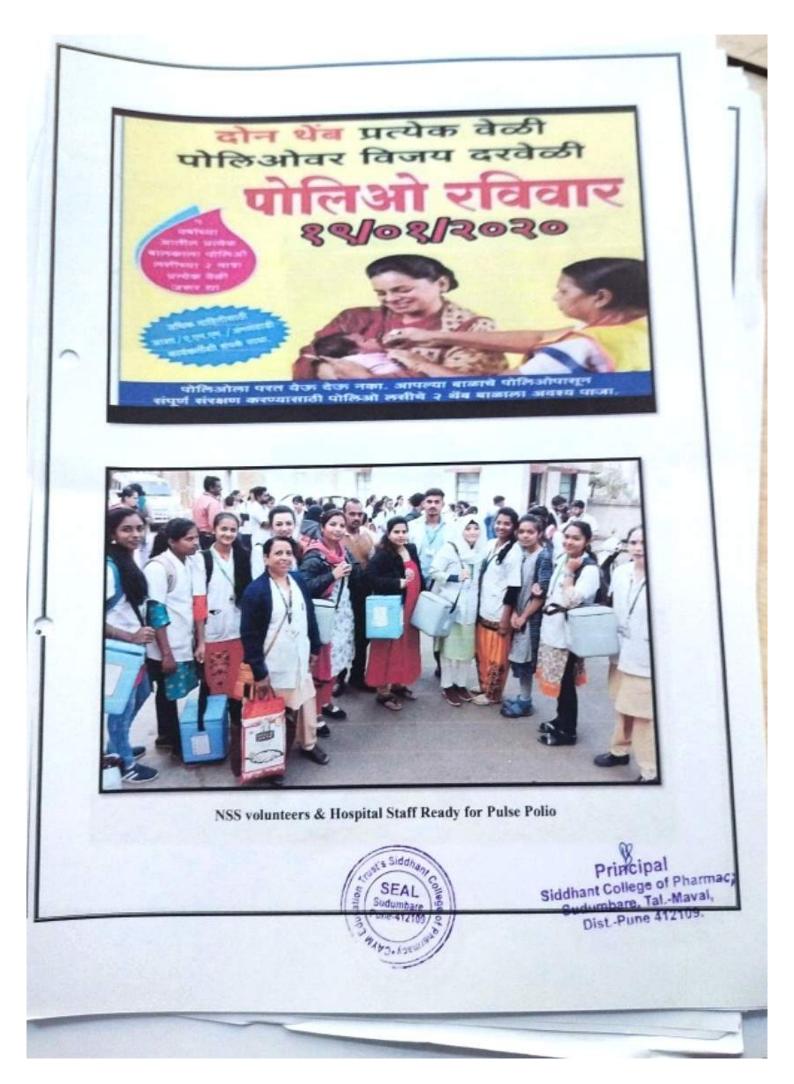
The Sai Baba Sevadhamwas utilized for staying of NSS volunteers for NSS Camp in which separate hall was available for girls. During this camp, various social projects were undertaken and successfully completed in the Kanhevillage. The details of projects are as follows

## **Day First**

The Subject of Fourth day camp was creation of healthy society through community health services.Pulse Polio Program was conducted on Sunday 19 Jan 2020 in Bhosarihospital area total 50 NSS Volunteers participated from Siddhant College Of Ppharmacy were Program started Morning at 8:00 am to 5:15 pm at allotted area in group of 05 students. Students are distributed in 17 booths in respective areas along with hospital Staff. Pulse polio vaccine drops will be administered to children up to 5 years of age on a Side by side, information about remaining regular vaccination to be administered to to children in accordance with due list will also be updated. Left out children will be registered and their information will be given in prescribed Performa. About 19 booths have been set up. These will be manned by near about 1000 thousand vaccinators. In all, 150 our college NSS Volunteers With PCMC hospital 15 staff perform Supervisor role &our college eight Faculty get participated college in college uniform with apron



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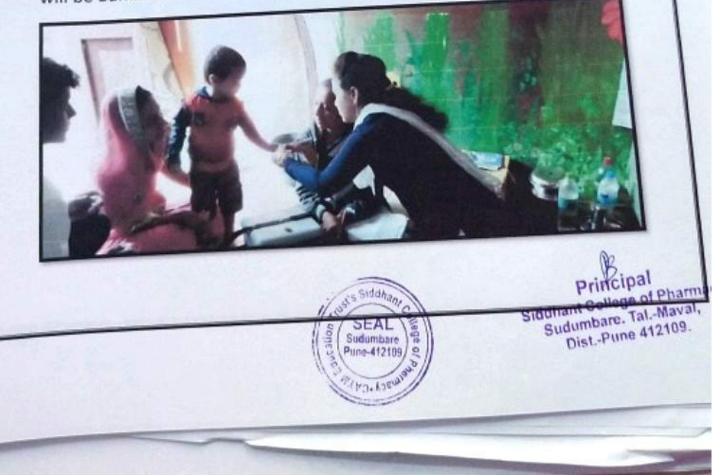




Orally Administration Pulse Polio drop

## Day 05-Pulse polio Camp& Tree Plantation

The Subject of Fifth day of camp was Start administer the pulse polio drop missing child Apart from railway stations and bus stands, the dose will be administered







Mark & Hand Administration of Pulse polio Drop

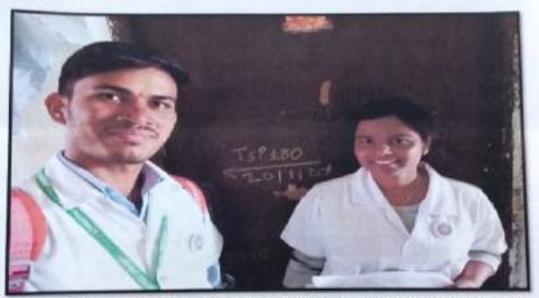
## Guest lecture by Assistant Professor Ganesh Mhaske sir on Personal Development



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# Day o6Pulse polio Camp& Swatch Bharat JanjagrutiRally&Street play

The Subject of Sixth Day of NSS Volunteers Starts with Volunteers divided in 10 groups each containing 05 volunteers and specified them with different parts of the PCMC area Later on all 10 groups went to door to door of each and every house for survey of Missing child &administered Pulse polio drop And & Write the mark /code on door of each



survey of Missing child &administered Pulse polio drop Write the mark /code on door of each



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cleanliness drive in Railway station Area



cleanliness drive in Garmin Rural Hospital Area



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The NSS Student representive Mr. Jadhav Vighnesh Explain the NSS Activities to District Co-coordinator Mr. Vishal Gaikwad



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District Co-coordinator Mr. Vishal Gaikwad gave visit & Guide the NSS volunteers



Principal Siddhant College of Ph Sudumbare, Tal.-Ma Dist.-Pune 41210



The NSS Student representive Mr. Jadhav Vighnesh Explain the NSS Activities to District Co-coordinator Mr. Vishal Gaikwad

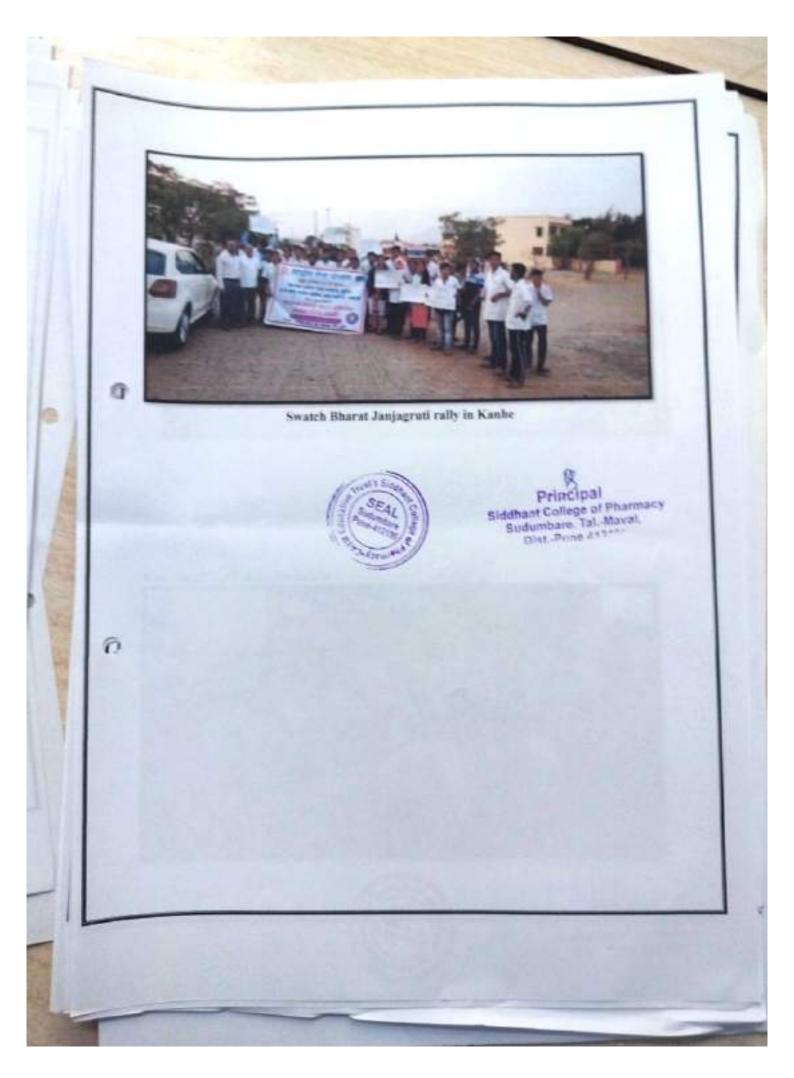


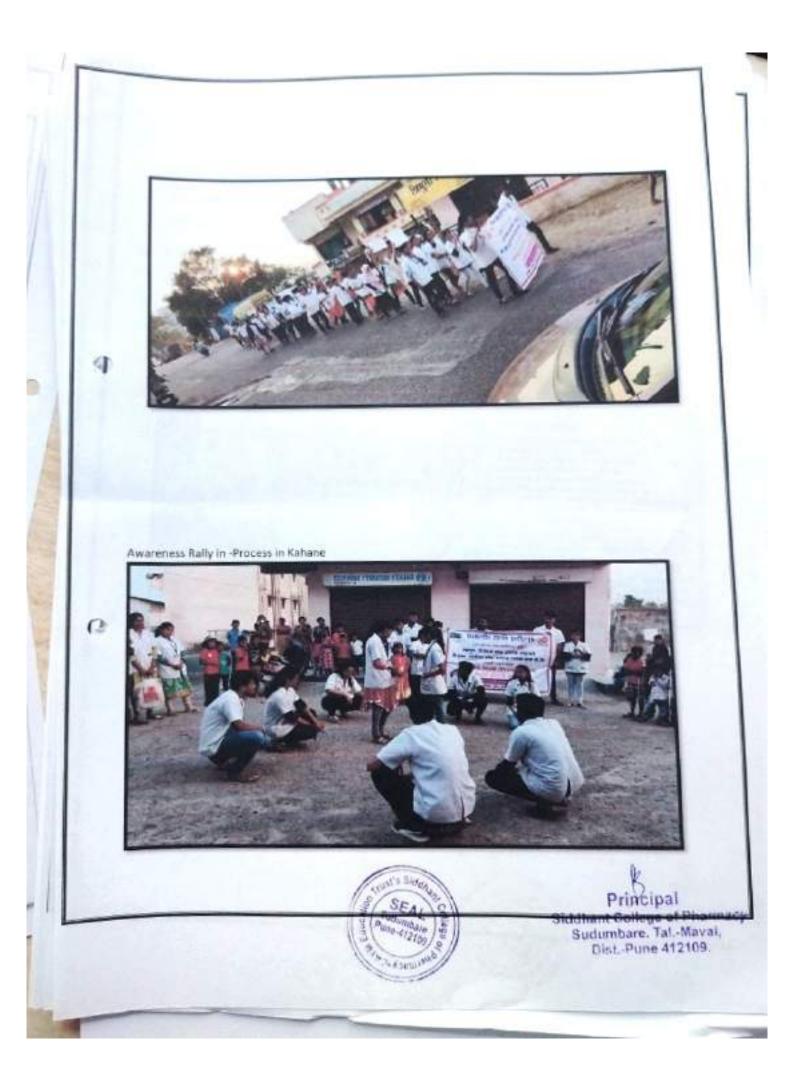
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District Co-coordinator Mr. Vishal Gaikwad gave visit & Guide the NSS volunteers



Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109.





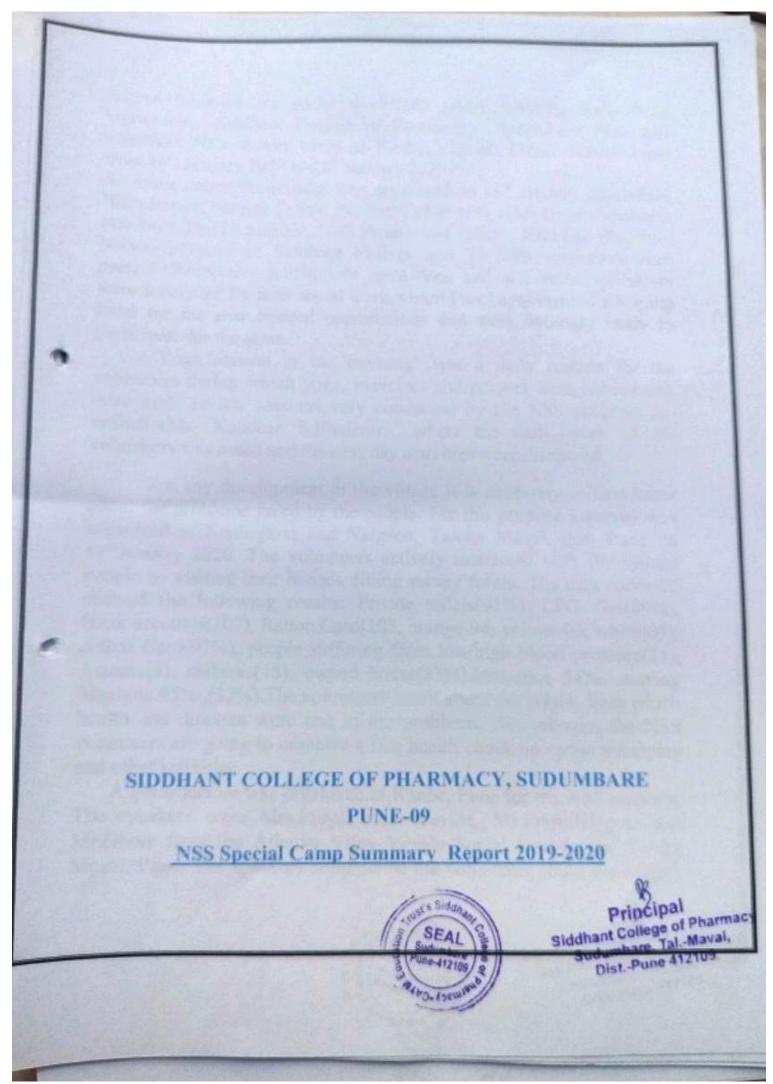
## Day 7: Valedictory function

The Subject of Sixth Day of NSS Volunteers Starts with Volunteers divided in 10 groups each containing 05 volunteers and specified them with different parts of the PCMC area Later on all 10 groups went to door to door of each and every house for survey of Missing child &administered Pulse polio drop And & Write the mark /code on door of

### NSS Camp News in Lokamat News Paper



Prepared by Ms- Kanchan S.Bhalerao Swapnali Girme (NSSProgramme Officer) Principal rust's Siddhant College of F Sudumbare, Tal.-N Dist -Pune 412 Jeunad



As an initiative for social work and under SavitribaiPhule Pune University, Siddhant College of Pharmacy, Sudumbare Pune had organized NSS Winter camp at Kanhe Village, Taluka Maval, Pune from 16th January 2020 to 22thd January 2020.

An inauguration programme was organized on 16th January 2020where Nitin Satkar, Sameer Satkar, NavnathSatkar with other Gram Panchayat members, Dr.D.S,Shirode, NSS Programme officer, Kanchan Bhalerao, NSSco-ordinator of Siddhant College and 75 NSS volunteers were present. Respective felicitations were done and also some volunteers were felicitated for their social work. Gram Panchayat assured a helping hand for the new opened opportunities and were willingly ready to participate for the same.

'Yoga session in the morning' was a daily routine for the volunteers during which yoga, exercises and prayers were carried out. Also night review sessions very conducted by the NSS program coordinatorMs- Kanchan S.Bhalerao where the daily work of the volunteers was noted and the next day activities were discussed.

For any development in the village it is necessary to first know about the problems faced by the people. For this purpose a survey was organized at Kanhegaon and Naigaon, Taluka Maval, dist. Pune on 17th January 2020. The volunteers actively interacted with the village people by visiting their houses, filling survey forms. The data collected showed the following results: Private toilets(91%), LPG Gas(89%), Bank accounts(107), Ration Card(102; orange-94; yellow-03; white-05), Adhar Card(97%), people suffering from low/high blood pressure(21), Asthma(3), diabetes(15), owned house(83%), Insurance 54% sieving Machine 45% ,(32%). The volunteers learnt about the issues, from which health and diseases were one of the problems. Accordingly, the NSS volunteers are going to organize a free health check-up camp, streetplay and other activities.

A guest lecture was organized at Kanhe, Pune for the NSS students. The speakers were Mrs.Maya Vilas Yevale, Mr.PrafulHingole and Mr.Dhore from the Atharva Vijay Yevale Social Foundation, Taluka Maval, Pune. The speakers enlightened the volunteers about the MPSC,

Principal

Sudumbare, Tal.-Ma Dist.-Pune 412109.

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UPSC competitive exams. The volunteers were delighted about the valuable information and also got an opportunity to look at the different side of these fields. Overall the session was very interactive.

"Health is a crown on the well person's head that only the I'll person can see." A health check-up camp was organized through NSS by all our students at ZillaParishad School Kanhe, Pune on 18<sup>th</sup> January 2020. Eye checkup(75), blood pressure check-up(60), hemoglobin check-up(22), blood donation(15) and glucose check-up(50) were the parameters on which the camp was based. As per data total number of participants was 123. The camp was well organized by the co-ordinates along with the volunteers and so it was appreciated by the members of Gram Panchayat and the participants.

A guest lecture was organized at Kanhe, Pune for the NSS students. The speaker was Mr.GaneshMaske, MMCOP, and Chinchwad. He enlightened the volunteers about 'Personal Development.' The session was very interactive and the volunteers were delighted for the same.

The NSS volunteers on 22<sup>th</sup>January 2020. The volunteers cleaned the area of the school railway Station and also interacted with the People The children actively participated by singing songs and dancing. The school appreciated the work done by the volunteers.

The volunteers organized a rally on 'Swatch Bharat Janjagruti' on 20th January 2020 in Kanhe, taluka-Maval Pune narrating slogans. They performed a Street play on 'Swatcha Bharat and Road safety awareness' which was very energetic and appealing. They also visited '.

A tree plantation program was arranged in Gram Panchayat premises where 20 saplings were planted by the volunteers as an helping hand for the betterment of the environment.

The NSS volunteers ManojKharat, Vighnesh Jadhav conducted a lecture on 'personality development and career guidance' and Snehal Jadhav conducted a special girls lecture on 'menstruation', 21<sup>st</sup>January 2020. The volunteers of the institute performed a street play on 'Swaccha Bharat' in Z.P Primary school, Kanhe. Cleanliness drive was organized by the volunteers where the area around railway station, police station and the temple of Kanhe were cleaned. The NSS district co-ordinatorMr.Vishal Gaikwad gave a visit to the NSS camp and collected all the information about the activities given by the coordinators. He focused on how the volunteers can develop themselves through this NSS camp. The day ended beautifully with the visit of Principal of the institute Dr.Rahul Dumber whose inspirational talk motivated the volunteers and marked a special gesture to the camp memories.

The entire NSS camp was carried out under the guidance of NSS Program Officer,

Ms- Kanchan S.Bhalerao whose hard work and dedication led to the success of this NSS camp.

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Prepared by SwapnaliGirme

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Ms- Kanchan S.Bhalerao (NSSProgramme Officer)



Principal Siddhant College of Pharma Sudumbare, Tal.-Maval, Dist.-Pune 412105

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY SUDUMBARE

## REPORT OF "SWATCH BHARAT ABHIYAN"

#### Date- 27/8/2019

Siddhant College of Pharmacy conducted the "Swatch Bharat Abhiyan" in college and surrounding of the college. For the good health of human and to avoid the infections like dengue and other mosquito and insect generated diseases.

Students from our college removed the grass surrounding the building and laboratory as well as they removed the harmful materials like plastic and debris accumulating in the campus and polluting the environment.







Principal Siddhant College of Pharmac Sudumbare. Tal.-Maval, Dist.-Pune 412109.



Students also gardened the plants and gave them manure for the growth of plants and the garden.



The activity created the impact on their mind regarding cleanliness and well gardened surrounding.

Prepared by

Mrs.Swapnali Girme



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NSS Coordinator

Ms.Kanchan Bhalerao

Principal Siddhant College of Pharmacy Sudumbare. Tal.-Maval, Dist.-Pune 412109.

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY SUDUMBARE

## REPORT FOR TREE PLANTATION AT ROAD SIDE UNDER NIRMAL WARL HARIT WARL SWACHA WARI

In the month of July college has arranged the tree plantation event at road side under the N55 activity for the students to create the awareness about the nature and the environment.

Tree plantation event at road side with the students







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The activity created the impact on their mind regarding importance of tree in every one life so tree plant is very importance.



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Principal Siddhant College of Pharmacy Sudumbare. Tal.-Maval, Dist.-Pune 412109.

NSS Coordinator



## Siddhant College of Pharmacy

Sudumbare, Pune

## (NPWREPORT)

## ACADEMIC YEAR2018-19

Members of Committee:

a) Ms:KanchanS.Bhalerao

Signatures

Prepared by

(Ms:kanchan S. Bhalerao)

Checked by

( Dr.Swati Deshmukh)

IQAC coordinator

SEA

(Dr.Swati Deshmukh)

Principal Sideraht College of Pha Sudumbare. Tal.-May Dist.-Pune 412109

## Summary Report National Pharmacy Week Academic year 2018-2019

Venue: Siddhant College of Pharmacy Sudumbare Pune Dates : 25 Sep to 01" oct2019

Chief coordinator: Mrs: kanchanS.Bhalerao

The Indian pharmaceutical Association (IPA) had organized& Conducted various Parma related competition for students in various pharmacy college in Pune. This year 15 events have been decided to be conducted under related theme **Pharmacists your Medicines experts** period from 25<sup>th</sup> September2018 to 1 October2018 in various pharmacy colleges. The details of participant of our college given in below.

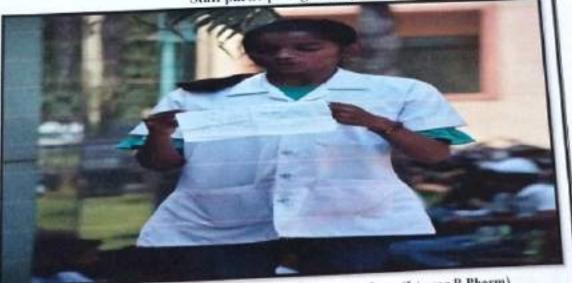
Sr. No	Name of participant	Name of Activity/Event /Date	college	Remark
1)	a)Padwal Bhagyshree b)Tijage Sharadha	General Aptitude Test(27/09/18)	SinghadInstitute ofPharmacyNarhe	Participation Certificate
2)	a)Jadhav Snehal b)Londhe Reema	Essay Competition(28/ 09/18)	AISSMS College of Pharmacy ,Pune	Participation Certificate
3)	a)Adling Ketaki b)Gore Pooja	Quize Competition(28/ 09/18)	Alard college of Pharmacy,Hinjewadi	Certificate
4)	a)Saurabh Sapkal b)Vighnesh Jadhav c)Poonam Fargade d)Ashwini Sukale	Group Discussion (29/09/2018)	Dr.D.Y.Patil Institute of Pharma. Research Pimpri	Certificate
5)	a)Tijage Shradha b)Padwal Bhagyashree c)Londhe Reema d)PardhiSnehal e)DharmapurikarVr	WhatsApp Best Quote (29/09/18)	College of Pharmacy, Pune	Participation Certificate
5)	ushali a)Mengade Ashok	Pharma Detailing Competition (29/09/18)	Indiayani monthe	of Participation du Certificate Da Principal

				1
a)Jagtap S b)Kadam c)Wagage	Prachi	Poster Presentation Competition (01/10/18)	JSPMs Jayawant Institute of Pharmacy Tathawade	Participation Certificate
All Student	B.Pharm	Pharma Rally (25/9/2018)	Siddhant college of pharmacy	Completed

Photo: Rally will organize on the Occasion of Pharmacist Day.



Staff participating in rally



Speech on Online Pharmacy Medicine by Pooja Nagalpure(Ist year B.Pharm)

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Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109.



22

**Rally in Process** 



Online Medicine Awareness rally in Sudumbare Village.

NPW Co-ordinator (Ms: Kanchan Bhalerao)



Siddhant College of Pharmacy Sudumbare. Tal.-Maval. Dist.-Pune 412109. Principal

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY, SUDUMBRE, PUNE.

#### Report of Wari

Date-23/07/2018

Our college has always participated in the social events which are surrounding the site of our group of institutions. Debu and Sudumbre are the pilgrimages that are surrounding the college.

Our institution take part in this yearly coming event where we provide water tanker and food / breakfast to the pilgrims. This year we gave shawl and shriphal as token of love and to make their way easy.



Our staff members Mr. Prakash Gade and Mr. Deshmuk were present at the event for giving them helping hands for their daily routine in the "wari"



Staff members from our Group of Institution were also participated in "Wari" up to Dehu gaon.

### CAYMET'S SIDDHANT COLLEGE OF PHARMACY, SUDUMBRE, PUNE.

#### Report of Wari

Our college has always participated in the social events which are surrounding the site of our group of institutions. Dehu and Sudumbre are the pilgrimages that are surrounding the college. Our institution takes part in this yearly coming event where we provide water tanker and food / breakfast to the pilgrims.





Students from our college served fruits to the Pilgrims at allotted station.



Siddhant College of Pharmacy al Sudumbare, Tal.-Maval, Dist.-Pune 412109.

# CAYMET'S SIDDHANT COLLEGE OF PHARMACY. SUDUMBRE, PUNE.

# Report of "Govar and Rubella Vaccination"

#### Date- 15/10/2018

Students from our college were participated actively in the Govar rubella Vaccination activity and they visited the sudumbre village people and explain them the importance of vaccination.





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ollege of Pharmacy Mayal, Sudumbare.

Dist.-Pune 412109.



Student from the college happily interacted with the village people and informed them the importance as well as helpfulness of the vaccination for the health of their children and people in the village

Helphin

NSS Coordinator



Principal Siddhant College of Pharm Sudumbare, Tal.-Mava Dist.-Pune 412109.

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY, SUDUMBRE, PUNE.

#### Report of "Swachchta Abhiyan"

Date- 10-09-2018

Siddhant College of Phannacy conducted the "Swachhata Abhiyan" in the surrounding of the college as well as in the village for the good health of human and to avoid the infections like dangue and other mesquito and insect generated diseases.



Students from our college removed the grass surrounding the building and laboratory as well as they removed the harmful materials like plastic and debris accumulating in the campus and polluting the environment.





Students also gardened the plants and gave them manure for the growth of plants and the garden. The activity created the impact on their mind regarding cleanliness and well gardened surrounding.

NSS Coordinator



Principal Siddhant College of Pharmau, Sudumbare, Tal.-Maval, Dist.-Pune 412109.

#### CAYMET'S SIDDHANT COLLEGE OF PHARMACY SUDUMBARE

### REPORT FOR TREE PLANTATION

6/8/2018

In the month of July college has arranged the tree plantation event under the NSS activity for the students to create the awareness about the nature and the environment.

College also arranges the skit for the creating the awareness among the students and the society regarding tree plantation as well as their benefits for us and environment.



Tree plantation event with the students and Hon. Vide president and Directors .





Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109. Sikit performance of the students for awareness





NSS Coordinator



Principal Siddhant College of Pharmac; Sudumbare, Tal.-Maval, Dist.-Pune 412109.



# CAYM Education Trusts Siddhant College of Pharmacy

A/P Sudumbare, Talegaon -Chakan Road, Tal:Maval, Dist: Pune -412109 Phone : 02114-661947, ,Email: siddhantcollegcofpharmacy@yahoo.in,Website: www.siddhantcop.in

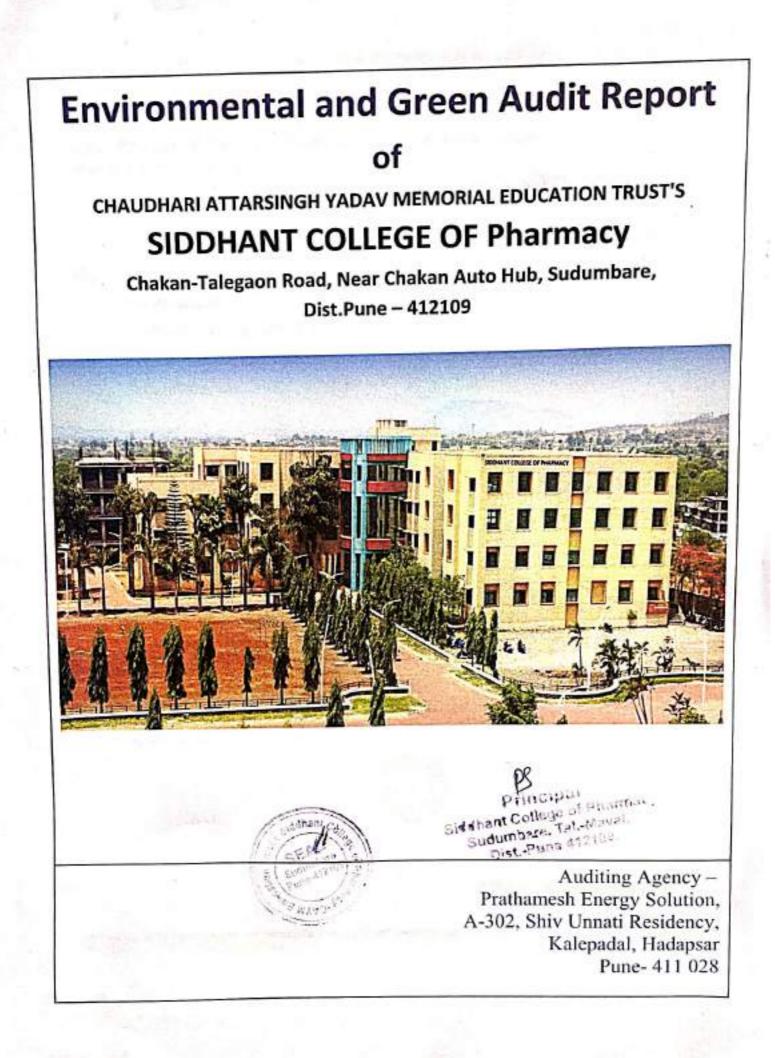
7.1.3 QUALITY AUDITS ON ENVIRONMENT AND ENERGY REGULARLY UNDERTAKEN BY THE INSTITUTION. THE INSTITUTIONAL ENVIRONMENT AND ENERGY INITIATIVES ARE CONFIRMED THROUGH THE FOLLOWING

# LIST OF DOCUMENTS

Sr. No.	Name of the Document	
3	Reports Of The Audits.	
a	Environment And Green Audit Report	
b	Energy Audit Report	



Siddhant College of Pharmac, Sudumbare, Tal.-Maval, Dist.-Pune 412109.



# **Prathamesh Energy Solution**

A-302, Shiv Unnati residency, Kalepadal, Hadapsar, Pune-411028

Ref: PES/SCoP/2022-23/20

Date:

To,

The Principal Siddhant College of Pharmacy Chakan-Talegaon Road, Sudumbare, Dist.Pune – 412109

Sub: Submission of Report on Environmental and Green Audit of College Campus

Respected Sir,

Please find enclosed herewith the report

Thanking you Yours faithfully

For Prathamesh Energy Solution

Authorized Signatory



Principal Siddhant College of Pharmacy Sudumbare. Tal.-Maval, Dist.-Pune 412109.

# **Prathamesh Energy Solution**

A-302, Shiv Unnati Residency, Kalepadal, Hadapsar, Pune 411028

Ref: EC/SCoP /22-23/16

# CERTIFICATE

This is to certify that we have conducted Environmental and Green Audit at Siddhant College of Pharmacy, Chakan-Talegaon Road, Sudumbare, Dist. Pune, in the Academic year 2022-23

. The College has adopted following Energy Efficient practices:

- > Usage of Energy Efficient LED Fittings
- Maximum usage of Day Lighting
- Installation of Roof Top Solar PV Plant.
- > Green Campus
- Rain water Harvesting system

We appreciate the support of Management, involvement of faculty members and students in the process of making the Campus Energy Efficient.

For.

### Prathamesh Energy Solution,

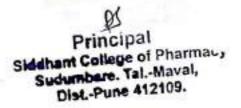


Principal Siddhant College of Pharmacy Sudumbare. Tal.-Maval, Dist.-Pune 412109.

ale of Registration ertific This is to Certify that Environmental Management System of PRATHAMESH ENERGY SOLUTION A-302, SHIV UNNATI RESIDENCY, KALEPADAL, HADAPSAR, PUNE-411028. MAHARASHTRA, INDIA. has been assessed and found to conform to the requirements of ISO 14001:2015 for the following scope : CONSULTANCY SERVICES FOR ENERGY AUDIT, GREEN AUDIT AND ENVIRONMENTAL AUDIT IN EDUCATIONAL INSTITUTIONS AND OTHER ORGANIZATIONS & SUBMISSION OF AUDIT CERTIFICATE AND REPORT. : 23EELA98 Certificate No Initial Registration Date : 09/06/2023 Issuance Date : 09/06/2023 : 08/06/2026 Date of Expiry 2nd Surve. Due : 09/05/2025 : 09/05/2024 1st Surve. Due Directo Magnitude Management Services Pvt. Ltd. Third Floor, A-60, Sector-2, Noida, Gautam Budh Nagar, U.P.-201301, India e-mail: info@mmscertification.com, website: prov.mmscertification.com Subject to Successful Surveillance Audit and cove surveillance andit is not allowed to be condu conficut dull be superfectionshinged Complexit Singlements Please Reveluck the withing of complexite at http:// or some measure floation com at derive Chours Conficence in the property of Magnitude Management Services Per. Lat. and that be Build when demanded -iddhan/ Principal at College of Pharmacy Sudumbare, Tal.-Maval, Prathamesh Energy Solution, Pune Page 4 ine. Dist.-Pung 412109







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Principal Siddhant College of Pharmac, Sudumbare, Tal.-Maval, Dist.-Pune 412109.

# ACKNOWLEDGEMENT

We at Prathamesh Energy Solution, Pune, express our sincere gratitude to the management and Principal of Siddhant College of Pharmacy, Pune for awarding us the assignment of Green and Environmenta Audit of their College campus located at Chakan-Talegaon Road, Sudumbare, Dist. Pune

We are very much thankful to

- Hon'ble Rajendra Singh Yadav, Founder, President, Siddhant Group of Institutes (SGI), Sudumbare, Pune
- > Hon'ble Siddhant Yadav, Vice President, SGI, Sudumbare, Pune
- > Hon'ble Mihir Yadav, Vice President, SGI, Sudumbare, Pune
- Mrs. Shanan Mihir Yadav, Director, SGI, Sudumbare, Pune
- > Dr. R. K. Dumbare , Principal, Siddhant College of Pharmacy, Pune
- > Dr. Swati Deshmukh, Associate Professor & HoD, Siddhant College of Pharmacy, Pune
- Mrs. Swapnali Girme, Assistant Professor & Coordinator, Siddhant College of Pharmacy, Pune

for giving us opportunity to conduct detailed energy audit of the institute and provide all the required data and information promptly for the smooth conduction of detailed energy and green audit.

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

We are also thankful to all the technical staff and office staff for helping during the measurements at the electrical distribution center.



Siddhant College of Pharmau. Sudumbare. Tal.-Maval, Dist.-Pune 412109

# EXECUTIVE SUMMARY

After the Field measurements & analysis, we present herewith important observations made and various measures to reduce the Energy Consumption & mitigate the CO<sub>2</sub> emissions.

 Siddhant College of Pharmacy, Pune, consumes electrical Energy in majority used for various gadgets & office operations.

2. The various projects already implemented by the College are

- Installed solar roof top plant of capacity 221kWp on the campus building roof. At present solar roof top is with net metering and it is meeting requirement of electricity demand of college campus buildings in the premises.
- > Usage of natural day lights and natural air circulation
- > Usage of Natural Day light in corridors specifically
- Usage of LED lighting for Admin & outdoor lighting
- Initiatives for plastic free campus

#### 3. Important Parameters: Electrical Energy:

Electricity is used for different purposes and at different sections in the college campus. The details of electricity distribution as mentioned below.

Sr. No.	Consumer No.	Electrical Meter No.	Location/Purpose	Payee
1	181029037080	055-XE474326	College building/building operation	M/S. CHAUDHARI ATTARSINGH YADAV MEMO.EDU.TRUST

The important parameters of electrical consumption as per Consumer no. in the campus are mentioned as below.

Sr. No	Consumer No.	Parameter	Max	Min	Average
1	181029037080	Units consumed, kWh	21502	2284	5458.5
	101029037080	Electricity Bill amount	358940	105977	149911.2
		Total average units consumed per month, kVAb.ddha,	4	1601	5458.5

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Sudumbare, Tal.-Marchi Dist.-Pune 41211

	Consumer No.	Particulars	Value MT
No	NSPERIO S	The state in the lange	52.40
1	181029037080	CO2- Emissions- Electricity cons-	52.40
		Total	02.10

# 4. Important Parameters: CO<sub>2</sub> Emissions (Average, MT/Annum)

On the basis of average electricity consumption CO<sub>2</sub> emission is 52.40MT /annum. In addition to this LPG is being consumed for canteen for food preparation. Nearly LPG consumption annually is 300 commercial cylinders i.e. 900 kg/annum. On the basis of average LPG usage CO<sub>2</sub> emission is 0.9MT/annum.

# 5. Benchmark: In terms of Electrical Energy & CO<sub>2</sub> emissions:

We now present two important benchmarks in respect of Electrical Energy consumption & CO<sub>2</sub> emissions as under.

No. 10	Particulars	Value	Unit
No	Electrical Energy consumed	0.031	kVAh/sq. ft.
1		0.29	Kg per annum /sq. ft.
3	CO2- Emissions		

# 6. Recommendations:

We present herewith various proposals to reduce the Electrical Energy demand and reduce the CO<sub>2</sub> emissions

No	Recommendation	Annual saving potential in kWh /Kg of LPG	Annual Saving Potential in MT of CO <sub>2</sub>	Annual monetary gain, Rs.
1	Solar street lights	262.8 kWh	0.21	2628
2	Solar powered light for hoarding	-	-	-
3	Solar charging stations		-	•
141	Total	262.8	0.21	2628

# Notes & assumptions:

1. 1 Unit of Electrical Energy releases 0.8 Kg of CO2 into atmosphere

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SEAL Sudumbare Pune-412109 2	Principal Siddhant College of Pharmacy Sudumbare, TalMart Dist - P	

- 2. 1 Kg of LPG releases 3 Kg of CO2 into atmosphere
- 3. Daily working hours-10
- 4. Annual working Days-280
- 5. Average Rate of Electrical Energy- Rs 10 per kWh



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# ABBREVIATIONS

DP	: Double Pole
CFL	: Compact Fluorescent Lamp
EESL	: Energy Efficiency Services Limited
FP	: Feeder Pillar
MSEDCL	: Maharashtra State Electricity Distribution Company Ltd.
MEDA	: Maharashtra Energy Development Agency
MIDC	: Maharashtra Industrial Development Corporation
v	: Voltage
1	: Current
kW	: kilo-Watt
kVA	: Apparent Power
kVAr	: Reactive Power
PF	: Power Factor
kWp	: Kilo Watt peak



Siddhant College of Pharmacy Sudumbare, Tat-Maval, Dist-Pune 412109.

# CHAPTER-I ENVIRONMENT AND GREEN AUDIT: INTRODUCTION

#### 1.1 Objectives:

- 1. To Study tree plantation in college campus
- 2. To Study the present CO2 emissions
- 3. To study Scope for usage of Renewable Energy
- 4. To study various measures for sustainable development

1.2 General Details of Siddhant College of Pharmacy, Pune:

No	Head	Particulars
1	Name of Institution	Siddhant College of Pharmacy, Pune
2	Address	Chakan-Talegaon Road, Sudumbare, Dist.Pune – 412109
3	Year of Establishment	2004
4	Salient Features	Affiliated to Savitribai Phule Pune University
4	Courses offered	B. Pharmacy M. Pharmacy ( Pharmaceutical Ceutics, QAT)
5	No of Students	397
6	Total built up area	6557 Sg. ft.



Siddhant College of House Sudumbare, Tet-Increal, Dist-Pune 412109

# CHAPTER-II

# **GREEN AUDIT FOR AY-2022-23**

Siddhant College of Pharmacy, Pune is one of the leading higher technical educational Institutions of Pune under Savitribai Phule Pune University, Pune. It has been providing quality technical education to the students in various professional courses. The College is having beautiful green campus and a highly greenery maintenance college in Pune. The college has been accredited by National Assessment and Accreditation Council (NAAC), Bangalore.

We have prepared a green audit report after visiting the college campus by our team. This green audit report is based on the following major points.

- 1. Plantation in the campus
- 2. Carbon accounting
- 3. Use of Renewable energy options for saving the environment
- 4. Illumination in class rooms
- 5. Water audit and Rainwater Harvesting
- 6. Waste disposal

#### 1. Plantation in the campus

Plantation is playing very important role in the green audit and helping to save environment from damage. The campus plantation is very diverse and well maintained.

The different species are cultivated to increase greenery of the campus. The species included Trees, Shrubs, Herbs, Climbers, ornamentals etc.

There are 213trees and shrubs present inside Siddhant College of Pharmacy, Pune campus. After a daylong survey and records about the plantation in the campus is prepared which is as per following table.

Sr. No.	Name of Tree	Quantity
1	chiku	4
2	jambhul	4
3	phanas	3
4	limbu	2
5	edlimbu	6
6	amba	2
7	ashoka	40
8	Botal form	20
9	kadipatta	1
10	gulmohar	6
11	jasvand	15
12	chapha	9
13	Ornamental tree	50
14	mogara	2
15	kaju	1
16	chahapatti ·	1
17	tulas	10
18	sitaphal	1
19	jambhul	1
20	supari	1
21	kadulimb	1
22	ruì	2

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Principal Siddhant College of Pharmacy, Sudumbare, Tal.-Maval, Dist.-Pune 412109.

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	Lt -lake	1
23	khalipha	5
24	gulab	2
25	pimpal	2
26	vad	2
27	gunjpala	1
23 24 25 26 27 28	pam	20

The lists of Medicinal Plants in the medicinal garden are mentioned as below.

Sr. No.	Name of the Plant	Sr. No.	Name of the plant
1	Song of India	21	Supari
2	Plumbago	22	Neem
3	Musanda pink	23	Marwa
4	Sago	24	Juniperus
5	Lantana	25	Cactus
6	Sugarcane	26	Carryputta
7	Khalipha	27	Bakul
8	Tulsi	28	Gautitea
9	Dalchini	29	Madhumalti
10	Sitaphal	30	Vinca, 33.1Khalipha
11	Tagar	31	Starlight
12	Jai	32	Sonchapha
13	Banana	33	Sherry
14	Hibiscus	34	Erandi
15	Rui, 15.1 Croton	35	Mango
16	Shatavari	36	Jui
17	Mogra	37	Insulin
18	Kaju	38	Panphuti
19	Ratrani	39	Ashoka
20	Alovera	40	Drumstick





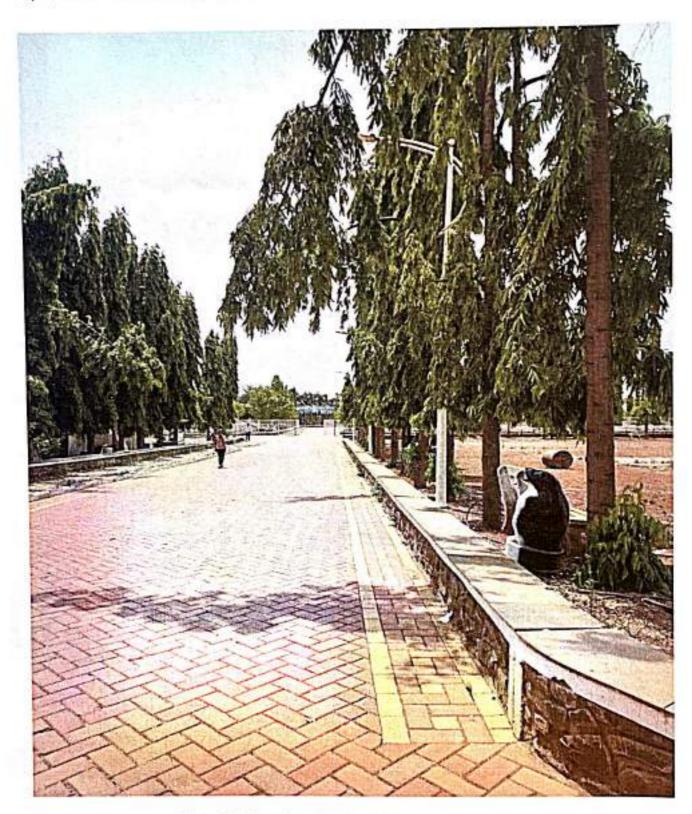


Photo-1: Garden view of Siddhant College of Pharmacy, Pune



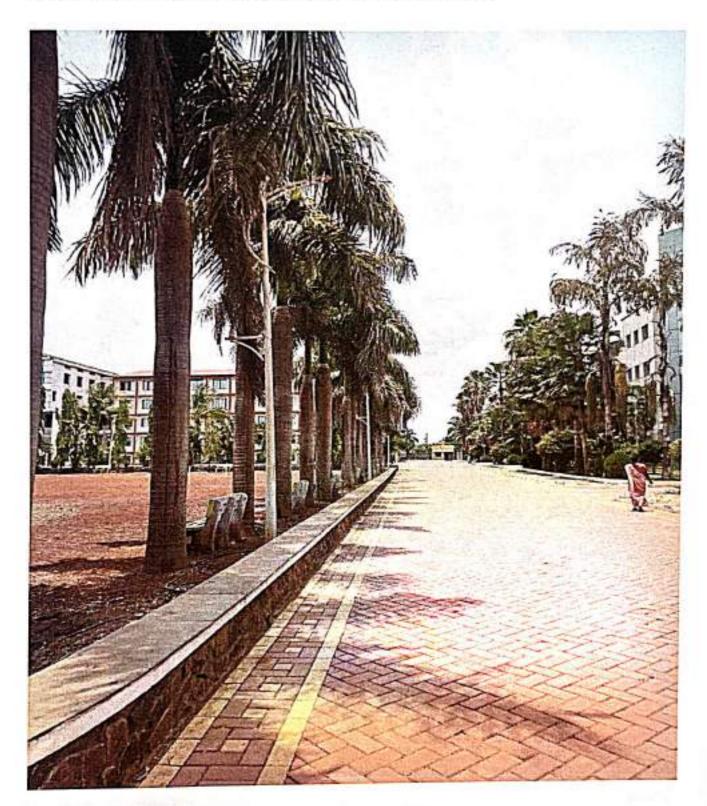


Photo-2: Front Plantation view of Siddhant College of Pharmacy, Pune

Prathamesh Energy Solution, Pune Page 16 Principal Sidehant College of Francisco Sudumbare, Tal. francisco Sudumbare, Tal. francisco

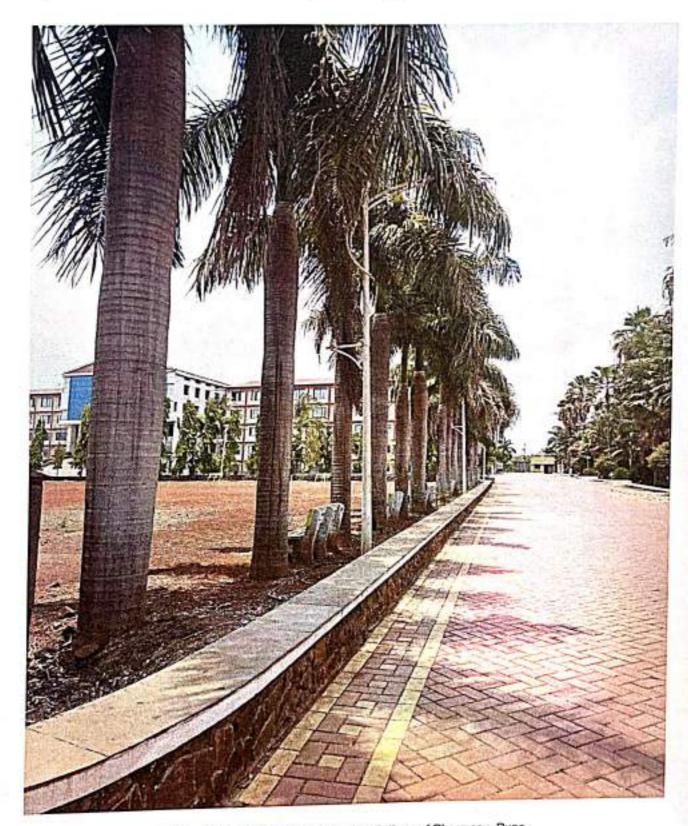


Photo-3: Tree Plantation at Siddhant College of Pharmacy, Pune



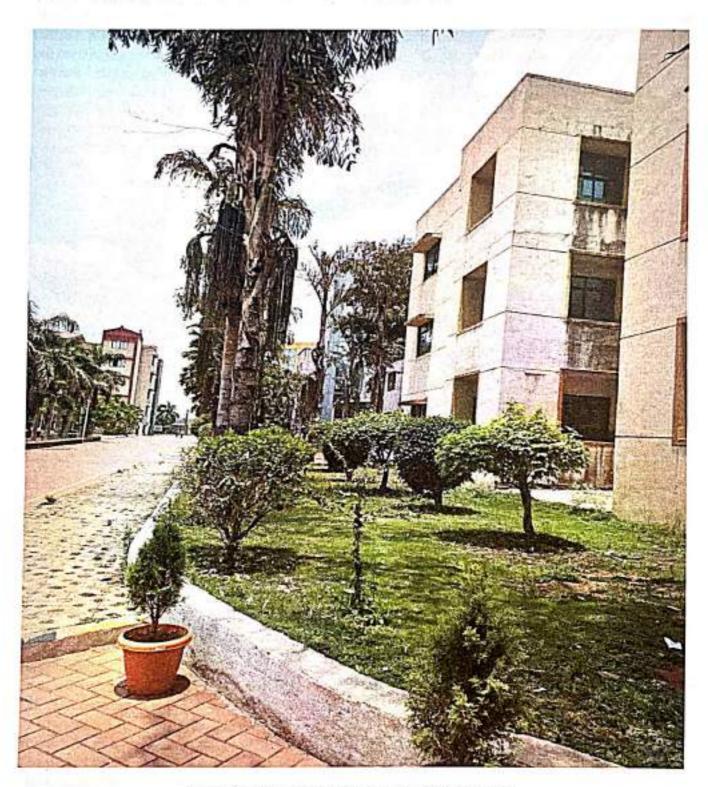


Photo-4: Lawn at Siddhant College of Pharmacy, Pune

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# 1.1 Calculation of amount of CO2 sequestered in trees per year

The carbon sequestration potential of the plant species present in green belt has been estimated and suitable plant with maximum sequestration of CO2 was recommended. Carbon sequestration is nothing but capturing atmospheric carbon dioxide or anthropogenic CO2 from large scale stationary sources like cement industry before it is released to the atmosphere. Once captured, the CO2 gas is put into long term storage. CO2 sequestration in plants has the potential to significantly reduce the level of carbon that occurs in the atmosphere. Terrestrial or biologic sequestration means using plants to capture CO2 from the atmosphere and then storing it as carbon in the stems and roots of the plants as well as in the soil. The green belts in industrial area acts as sink for capturing and storing carbon dioxide released from the industries.

Assessment of carbon sequestration ability of trees for adopting in greenbelt of cement industries

The carbon dioxide sequestered in plant species are determined based on following method:

1. Determine the total (green) weight of the tree

2. Determine the dry weight of the tree

Determine the weight of carbon in the tree

Determine the weight of carbon dioxide sequestered in the tree

Determine the weight of CO<sub>2</sub> sequestered in the tree per year

1.2 Determination of Total (Green) Weight of the Tree

The algorithm to calculate the weight of a tree is:

For trees with D < 11: W = 0.25D<sup>2</sup>H

For trees with D >= 11: W = 0.15D<sup>2</sup>H

Where, W = Above-ground weight of the tree in pounds

D = Diameter of the trunk in inches

H = Height of the tree in feet

Depending on the species, the coefficient (e.g. 0.25) could change and the variables D<sup>2</sup> and H could be raised to exponents just above or below 1. However, these two equations could be seen as an "average" of all the species' equations. The root system weighs about 20% as much as the above-ground weight of the tree. Therefore, to determine the total green weight of the tree, multiply the above-ground weight of the tree by 120%.

# 1.3 Determination of Dry Weight of the Tree

Taking all species in into account, the average tree is 72.5% dry matter and 27.5% moisture. Therefore, to determine the dry weight of the tree, multiply the weight of the tree by 72.5%.

# 1.4 Determine the weight of carbon in the tree

The average carbon content is generally 50% of the tree's total volume. Therefore, to determine the weight of carbon in the tree, multiply the dry weight of the tree by 50%.

Assessment of carbon sequestration ability of trees for adopting in greenbelt of cement industries

Determine the weight of carbon dioxide sequestered in the tree

CO2 is composed of one molecule of Carbon and 2 molecules of Oxygen.

The atomic weight of Carbon is 12.001115.

The atomic weight of Oxygen is 15.9994.

The weight of CO2 is C+2\*O=43.999915.

The ratio of CO2 to C is 43.999915/12.001115=3.6663.

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Therefore, to determine the weight of carbon dioxide sequestered in the tree, multiply the weight of carbon in the tree by 3.6663

Determine the weight of CO2 sequestered in the tree per year

Divided the weight of carbon dioxide sequestered in the tree by the age of the tree.

# 2. Carbon Accounting

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities.

In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Energy used by the College for performing its day to day activities. The college uses electrical energy for operating various electrical gadgets.

We herewith furnish the details of electrical Energy consumption consumer number wise as under

Sr. No	Month	kVAh
1	May-23	21502
2	April-23	3805
3	March-23	5313
4	Feb-23	9228
5	Jan-23	4636
6	Dec-22	4816
7	Nov-22	3337
8	Oct-22	2712
9	Sep-22	2576
10	Aug-22	2284
11	July-22	2325
12	June-22	2968
13	Total	65502
14	Average	5458.5
15	Max	21502
16	Min	2284

# 2.1 Month wise Consumption of Electrical Energy: 181029037080

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# 2.2 Basis for computation of CO<sub>2</sub> Emissions:

The basis of Calculation for CO2 emissions due to Electrical Energy are as under

1 Unit (kWh) of Electrical Energy releases 0.8 Kg of CO<sub>2</sub> into atmosphere

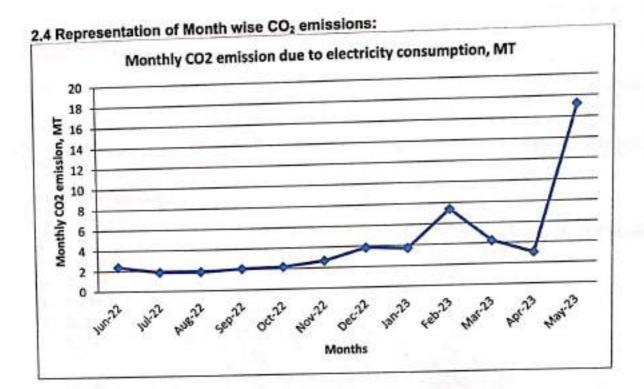
Based on the above Data we compute the CO<sub>2</sub> emissions which are being released in to the atmosphere by the College due to its Day to Day operations.

Sr. No	Month	Electrical Energy Consumed, kVAh	CO2 Emissions due to Electricity, MT
1	May-23	21502	17.20
2	April-23	3805	3.04
3	March-23	5313	4.25
4	Feb-23	9228	7.38
5	Jan-23	4636	3.71
6	Dec-22	4816	3.85
7	Nov-22	3337	2.67
8	Oct-22	2712	2.17
9	Sep-22	2576	2.06
10	Aug-22	2284	1.83
11	July-22	2325	1.86
12	June-22	2968	2.37
13	Total	65502	52.40
14	Average	5458.5	4.37
15	Max	21502	17.20
16	Min	2284	1.83

# 2.3 Month wise CO2 Emissions: 181029037080



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# 2.5 Benchmarking:

Now we compute the CO2 emissions per sq. ft. basis as under:

No	Parameter	Value	Unit
1	CO2 emissions	52.40	MT/annum
2	College area	177066.33	Sq. ft.
3	CO2 emissions/sq. ft.	0.29	Kg of CO <sub>2</sub> per annum/sq. ft.



Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109.

# 3. Use of Renewable energy options for saving the environment 3.1 Installation of 221 kWp Solar PV Power Plant:

Solar roof top power plant having capacity 221 kWp is installed on Siddhant Pharmacy College building and Siddhant School building, at college campus which meets the requirement of electricity demand of these buildings. The Solar roof top plant is successfully installed and it is in operation to meet the requirement of electricity of institute campus building. The existing solar roof top installed technical specifications and details are given below.

# **Technical Specifications:**

Siddhant College of Pharmacy, Pune has installed solar roof top power plant. The brief specifications and details of the plant are mentioned below.

- System Capacity: 221 kW
- PV Module: Navitas Solar, 325 Wp Polycrystalline 680 nos.
- Output: 5.5 kWh/Sq.m/day (All output is under STC, 25°C)
- Inverter: Growatt- 30kWp-6 Inverters

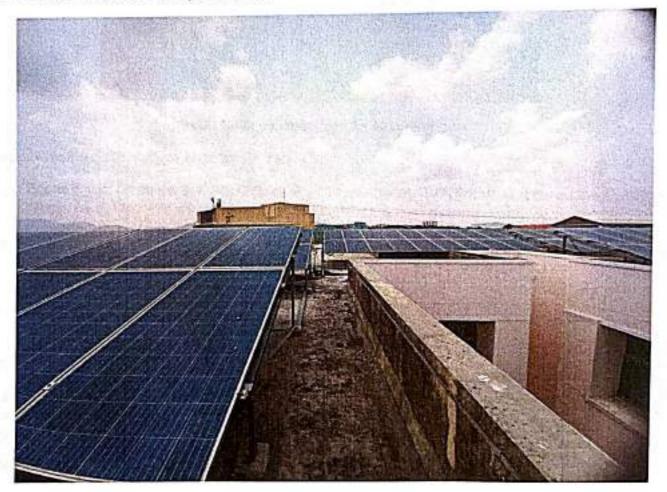


Photo-5: 221 kW solar roof top on Siddhant College of Pharmacy building roof.



# 3.2 Solar powered light for hoarding

Lighting solar systems are the fixed installations designed for domestic as well as small scale commercial application. The component of the solar lighting system includes solar PV module (solar cells), charge controller, solar battery and lighting system (lamps & fans). Modules are installed in the open on roof/terrace - exposed to sunlight and the charge controller and battery are kept inside a protected place in the house.

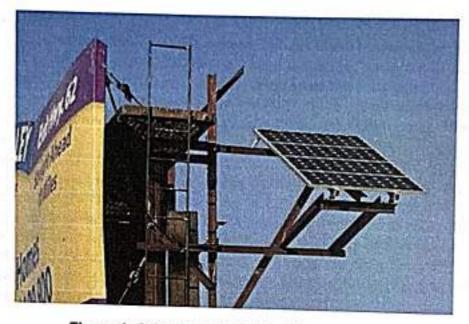


Figure-1: Solar powered light for Hoarding

This system comes with multiple benefits such as:

- Economical: Since the sun provides energy free of charge, 30% power savings on the electricity bill can be availed with longer back up lighting system at zero running cost.
- Non-Polluting: Powered by the sun's renewable energy, the system is energy neutral and an absolutely clean source of illumination. 1kWp solar installation reduces 1/2 ton of CO2 (carbon
- No Maintenance: The system has few moveable parts reducing the risk of breakage. Once installed, it lasts for long time and requires little attention.

This system can be used to power the huge hoardings in the college campus.

Solar powered hoarding lighting system proposed will provide a better, faster, cheaper (and cleaner) alternative with solar. Since this product competes with diesel or conventional fuels, we needed to ensure we beat the cost of a diesel solution. In order to achieve that with solar, we consider the following system:

1. Highly Efficient Solar Panel

2. Charge Controllers with MPPT Technology - increases solar electricity production by up to 30% compared to conventional charge controllers

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SEAL Sudumbare Pune-412109	Principal Siddhant College of Pharmacy Sudumbare, TalMaval, DistPune 412109	Page 24

 LED Projection Light – consumes 10-times less electricity compared to conventional bulbs, and has a 50,000 hour warranty.

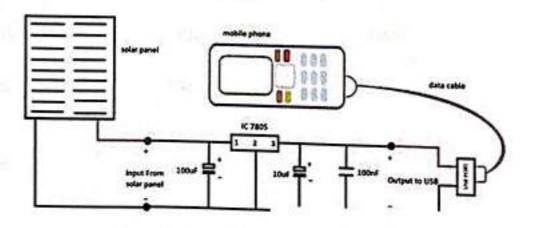
#### Features:

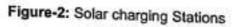
- Auto on off
- > 4 Days Battery Back Up
- Robust housing
- > Weather proof

With this entire put together, we ended up with systems that provide 6 hours of lighting each night with 4 -lamp system to light up boards up to 15'x30', and a 8-lamp system to light larger boards up to 20'x40'. More importantly, with these options, payback of the system will come around 2.5 years. This system provides a way to reduce the lightings costs, get rid of all the operational hassles of owning a diesel generator, plus brand benefits from being "green" with the use of renewable energy like solar powered light hoarding board.

# 3.3 Solar charging stations

Solar cell phone chargers use solar panels to charge cell phone batteries. They are an alternative to conventional electrical cell phone chargers and in some cases can be plugged into an electrical outlet. Solar mobile charger is a device which can charge mobile phones using solar radiation. Its major component is a compact solar panel. This solar panel traps solar energy and produces an output voltage. But, since the light radiations falling on the solar panel can vary, the output voltage becomes unstable. For charging a mobile phone, stable voltage is required. So, to make the output voltage stable and regulated, voltage regulator circuit along with the solar panel is used.





Most of the mobile phones have computer connectivity via USB cable. USB port establishes 4 connection terminals. The connection terminals at the two extreme ends are the supply terminals. In a female USB connector (port via which we plug in USB devices to computer), these terminals carry 5V DC. When a mobile phone is connected to the USB port of a computer, it utilizes this 5V supply to recharge battery. This feature is used in a solar mobile charger. It converts and regulates solar energy to 5V DC and the

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output will be available through the female USB connector. To this connector, we can easily connect a mobile phone via data cable.

# 4. Illumination in class rooms

Lighting puts a huge impact on the visibility and appearance of every space. Sufficient and beautiful lighting can enhance the look of a dull space, whereas improper lighting implementations can make a catchy area look less impressive. Poor lighting at work can lead to eye-strain, fatigue, headaches, stress and accidents. On the other hand, too much light can also cause safety and health problems such as "glare" headaches and stress. Siddhant College of Pharmacy, Pune is using daylight effectively, specifically at corridors. The typical class room illumination in lux is mentioned as below.

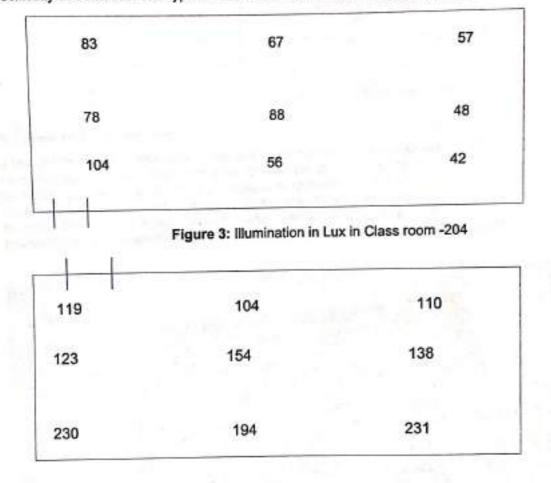


Figure 4: Illumination in Lux in Class room- 404

# 5. Water Audit and Rain water harvesting

A water crisis is a very sensitive issue these days all over the world. Recently we are facing water crisis in major part of Maharashtra like Marathwada, Khandesh, Pachim Maharashtra and North Maharashtra. Siddhant College of Pharmacy, Pune has taken a good initiative for maintaining greenery in the campus and less concrete zone, it means that college campus is allowing the rainwater to absorb under the ground and maintain the underground water level. Siddhant college of Pharmacy, Pune provides drinking water through RO filter and water coolers.

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In addition to this as per the survey and site location following activities can be implemented for the conservation of water.

# 5.1 Water storage and consumption

Siddhant College of Pharmacy, Pune campus is having water supply through well located in the campus to mitigate the need of requirement water for various activities. The college campus has temporary water storage capacities in terms of overhead tanks on the Institute building. Water is temporarily stored in the campus for various activities. There is a provision of sparkler system to supply the water in garden to maintain greenery. The details of water storage in the campus as mentioned below.

Tank location	For Regular Use (ltr)	For Fire Use (Itr)
	5000	Nil
Pharmacy Hostel	2000	Nil
Hoster	2000	

# 5.2. Rain water harvesting

The system of rain water harvesting is an integral part of any educational institution. This system helps to conserve the rain water and also to use during the time of its desirable. This system helps the students to understand the basic concepts of rainwater harvesting system and their effective use in the real life. Already Siddhant College of Pharmacy, Pune have provisions of collection of gray rain water from all the building taken through some specific path and charged in the ground below building to maintain the ground level water. It is suggested to charge the rain water through ring well in the campus.

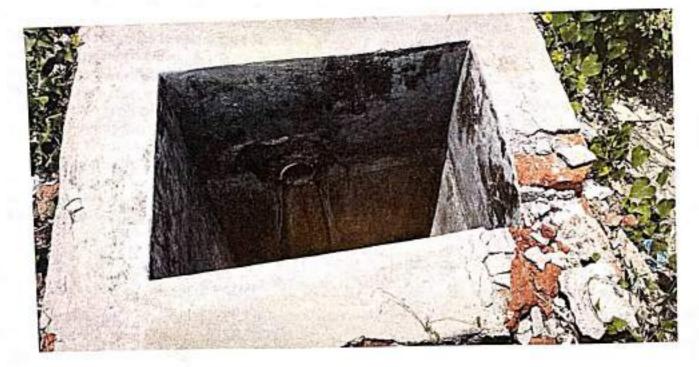
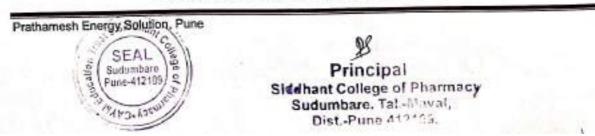


Photo-6: View rain water collection from building



## Advantages of rain water harvesting

(a) Promotes adequacy of underground water

(b) Mitigates the effect of drought

(c) Reduces soil erosion as surface run-off is reduced

(d) Decreases load on storm water disposal system

(e) Reduces flood hazards

(f) Improves ground water quality / decreases salinity

(by dilution)

(g) Prevents ingress of sea water in subsurface aquifers in coastal areas

(h) Improves ground water table, thus saving energy (to lift water)

(i) The cost of recharging subsurface aquifer is lower than surface reservoirs

(j) The subsurface aquifer also serves as storage and distribution system

(k) No land is wasted for storage purpose and no population displacement is involved

(I) Storing water underground is environment friendly

### Rain water harvesting potential

The total amount of water that is received in the form of rainfall over an area is called the rain water endowment of that area. Out of this, the amount that can be effectively harvested is called rain water harvesting potential.

All the water which is falling over an area cannot be effectively harvested, due to various losses on account of evaporation, spillage etc. Because of these factors the quantity of rain water which can effectively be harvested is always less than the rain water endowment. The collection efficiency is mainly dependent on factors like runoff coefficient and first flush wastage etc. Runoff is the term applied to the water that flows away from catchments after falling on its surface in the form of rain.

Runoff depends upon the area and type of catchment over which it falls as well as surface features. Runoff can be generated from both paved and unpaved catchment areas. Paved surfaces have a greater capacity of retaining water on the surface and runoff from unpaved surface is less in comparison to paved surface. In all calculations for runoff estimation, runoff coefficient is used to account for losses due to spillage, leakage, infiltrations catchment surface wetting and evaporation, which will ultimately result into reduced runoff. Runoff coefficient for any catchment is the ratio of the volume of water that run off a surface to the total volume of rainfall on the surface. The runoff coefficient for various surfaces is given in following table.

Type of catchment	Coefficient
Roof Catchments	
Tiles	0.8-0.9
Corrugated metal sheets	0.7-0.9
Ground surface coverings	0.7-0.9
Concrete	0.6-0.8
Brick pavement	0.5-0.6
Untreated ground catchments	0.5-0.0
	Roof Catchments Tiles Corrugated metal sheets Ground surface coverings Concrete



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	Soil on slopes less than 10%	0.0-0.3	
-	Rocky natural catchments	0.2-0.5	

Based on the above factors, the water harvesting potential of site could be estimated using the following equation:

Rain Water harvesting potential = Amount of Rainfall x area of catchment x Runoff coefficient

### Rain water harvesting methods

(a) Storing rain water for direct use

(b) Recharging ground water aquifers, from roof top run off

(c) Recharging ground water aquifers with runoff from ground area

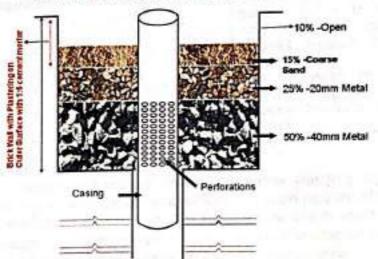
According to the site of Siddhant College of Pharmacy, Pune campus the method of recharging ground water aquifiers from roof top run off may be suitable.

### Recharging ground water aquifers from roof top run off

Rain water that is collected on the roof top of the building may be diverted by drain pipes to a filtration tank (for bore well, through settlement tank) from which it flows into

the recharge well, as shown in following Figure. The recharge well should preferably be shallower than the water table. This method of rain water harvesting is preferable in the areas where the rainfall occurs only for a short period in a year and water table is at a shallow depth. The schematic diagram of recharging water aquifers from roof top run off is as follows.

#### RECHARGE THROUGH INJECTION (BORE) WELL



#### 6. Waste disposal

The present Prime Minister of India, Shri Narendra Modiji launched " Swach Bharat Abhiyan" (Clean India Mission), on 2<sup>nd</sup> October, 2014. In this mission, the proper use of dustbins is one of the major priorities. For the successful implementation of this mission collective mass effort is necessary. The higher education institutions like Siddhant College of Pharamcy, Pune need to play a major role in this regard to keep their campus neat and clean. Proper use of dustbins is

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not only the solution for the generating garbage in the college campus. Now a days, its proper treatment should be given a major priority.

Sr. No.	Waste Category	Method of disposal
	Solid waste from trees droppings and lawn	Vermi Composting Organic Manure
2	Canteen waste	Vermi Composting Organic Manure
3	Plastic waste	Through Authorized recycler after segregation
4	Solid Waste from Lab	Solid Waste from Lab
5	Chemical waste generated in chemistry	The college is need to have a very good practice to use dilute chemicals for the experimentation in these labs. These dilute chemicals can be further diluted and disposed in the pit near the lab.
6	E-waste and defective items from computer and electronics lab	The institution has to decide to contact approved E- waste management and Disposal facility in order to dispose E-waste in scientific manner.
7	Sanitary Napkins	The institution have to take a very good initiative to install sanitary napkin disposal machine at the different location in the college campus. It is suggested to install vending machine along with incinerators at required locations in the college campus.

## Characteristic and Disposal Practices of Solid Wastes Waste Management

#### 6.1 Vermiculture Composting Culture

Vermicomposting is basically a managed process of worms digesting organic matter to transform the material into a beneficial soil amendment. The main purpose of this is to reduce disposable waste in the college campus and after complete process of vermi composting it is used as manure for plantation and greenery in the campus. It is also used for the demonstration and awareness in farmers to implement organic farming and its importance.

The main benefits of the process are to reduce the waste in the environment and utilized for some useful purpose and also it is cost savings process.

The earthworms being voracious eaters consume the biodegradable matter and give out a part of the matter as excreta or vermi-castings. The vermi-casting containing nutrients is a rich manure for the plants. Vermicompost, apart from supplying nutrients and growth enhancing hormones to plants, improves the soil structure leading to increase in water and nutrient holding capacities of soil. Fruits, flowers and vegetables and other plant products grown using vermicompost are reported to have better keeping quality. A growing number of individuals and institutions are taking interest in the production of vermicompost utilizing earthworm activity. As

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the operational cost of production of this compost works out to less than ' Rs. 2.0/Kg., it is quite profitable to sell the compost even at Rs. 4.00 to 4.50/Kg. Process:

The process of composting crop residues / agri wastes using earthworms comprise spreading the agricultural wastes and cow dung in gradually built up shallow layers. The pits are kept shallow to avoid heat built-up that could kill earthworms. To enable earthworms to transform the material relatively faster a temperature of around 30°C is maintained. The final product generated by this process is called vermicompost which essentially consist of the casts made by earthworms eating the raw organic materials. The process consists of constructing brick lined beds generally of 0.9 to 1.5 m width and 0.25 to 0.3 m height are constructed inside a shed open from all sides. For commercial production, the beds can be prepared with 15 m length, 1.5 m width and 0.6 m height spread equally below and above the ground. While the length of the beds can be made as per convenience, the width and height cannot be increased as an increased width affects the ease of operation and an increased height on conversion rate due to heat built up.

Cow dung and farm waste can be placed in layers to make a heap of about 0.6 to 0.9 m height. Earthworms are introduced in between the layers @ 350 worms per m3 of bed volume that weighs nearly 1 Kg. The beds are maintained at about 40-50% moisture content and a temperature of 20-30° C by sprinkling water over the beds. When the commercial scale production is aimed at, in addition to the cost of production, considerable amount has to be invested initially on capital items. The capital cost may work out to about Rs. 5000 to 6000 for every tonne of vermicompost production capacity. The high unit capital cost is due to the fact that large units require considerable expenditure on preparation of vermi beds, shed to provide shelter to these beds and machinery. However these expenditures are incurred only once.

Under the operational cost, transportation of raw materials as also the finished product are the key activities. When the source organic wastes and dung are away from the production facility and the finished product requires transportation to far off places before being marketed, the operational cost would increase. However, in most of the cases, the activity is viable and bankable. Following are the items required to be considered while setting up a unit for production of vermi-compost.

## **Components of a Commercial Unit**

Commercial units have to be developed based on availability of cow dung locally. If some big dairy is functioning then such unit will be an associated activity. Commercial units must not be designed based on imported cow dung.

#### 1. Sheds

For a vermi-composting unit, whether small or big, this is an essential item and is required for securing the vermi beds. They could be of attached roof supported by bamboo rafters or steel trusses. Locally available roofing materials or HDPE sheet may also be used in roofing to keep the capital investment at reasonably lower level. If the size is so chosen as to prevent wetting of beds due to rain on a windy day, they could be open sheds. While designing the sheds adequate room/pathways has to be left around the beds for easy movement of the labourers attending to the filling and harvesting the beds.

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### 2. Vermi-beds

Normally the beds have 0.3 to 0.6 m height depending on the provision for drainage of excess water. Care should be taken to make the bed with uniform height over the entire width to avoid low production owing to low bed volumes. The bed width should not be more than 1.5 m to allow easy access to the center of the bed.

#### 3. Fencing and Roads/Paths

The site area needs development for construction of structures and development of roads and pathways for easy movement of hand-drawn trolleys/wheel barrows for conveying the raw material and the finished products to and from the vermi-sheds. The entire area has to be fenced to prevent trespass by animals and other unwanted elements. These could be estimated based on the length of the periphery of the farm and the length and type of roads/paths required. The costs on fencing and formation of roads should be kept low as these investments are essential for a production unit, yet would not lead to increase in production.

#### 4. Water Supply System

As the beds have to be kept moist always with about 50% moisture content, there is a need to plan for a water source, lifting mechanism and a system of conveying and applying the water to the vermi-beds. Drippers with round the clock flow arrangement would be quite handy for continuous supply and saving on water. Such a water supply system requires considerable initial investment. However, it reduces the operational cost on hand watering and proves economical in the long run. The cost of these items would depend on the capacity of the unit and the type of water supply chosen.

#### 5. Transportation

For any vermi-composting unit transport arrangement is a must. When the source of raw material is away from the production unit, an off-site transport becomes major item of investment. A large sized unit with about 1000 tonnes per annum capacity may require a three tonne capacity mini-truck. With small units particularly with the availability of raw material near the site, expending on transport facility may become infructuous. On-site transport facilities like manually drawn trolleys to convey raw material and finished products between the storage point and the vermi-compost sheds could also be included in the project cost.

#### **Design calculations**

The size of the bed can selected as per the space available and convenient to the customer. Brick lined beds generally of 0.9 to 1.5 m width and 0.25 to 0.3 m height are constructed inside a shed open from all sides. On the basis of site survey and suitability of operation lets consider following dimensions for the bed. Generally, earthworms are introduced in between the layers @ 350 worms per m3 of bed volume that weighs nearly 1 Kg.

L= 3 m W = 1.5 mH = 0.6 mVolume of the bed = 2.7 m<sup>3</sup>

, IS	kg of organicresidue	1 kg of organicresidue	
Input=	m3×15 days	m3×1 day	
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It means for 2.7 m<sup>3</sup>, 270 kg of organic residue is required. Therefor for a month approximately 8100 kg (8.1 Ton) of organic residue is required.

The financial viability on the basis of available data of the vermicompost system is shown below.

Sr. No. Particulars		Expenditure Cost (Rs.)
1	Bed construction	Already available 10,000/-
2	Fencing including roof	5000/-
3	Water Dripper	3000/-
4 Electrical connections		1000/-
5	Earthworms	1000/-
6	Salary & wages	20000/-
7	Sale of Vermicompost (@ Rs.100 /kg at 30% conversion)	121500/-
	Net Benefit	81500/-



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## Chapter III SUGGESTIONS AND RECOMMENDATIONS

Following are the suggestions and actions on the basis of green and environmental audit are suggested to implement in the campus on the basis of funds availability and institute preferences.

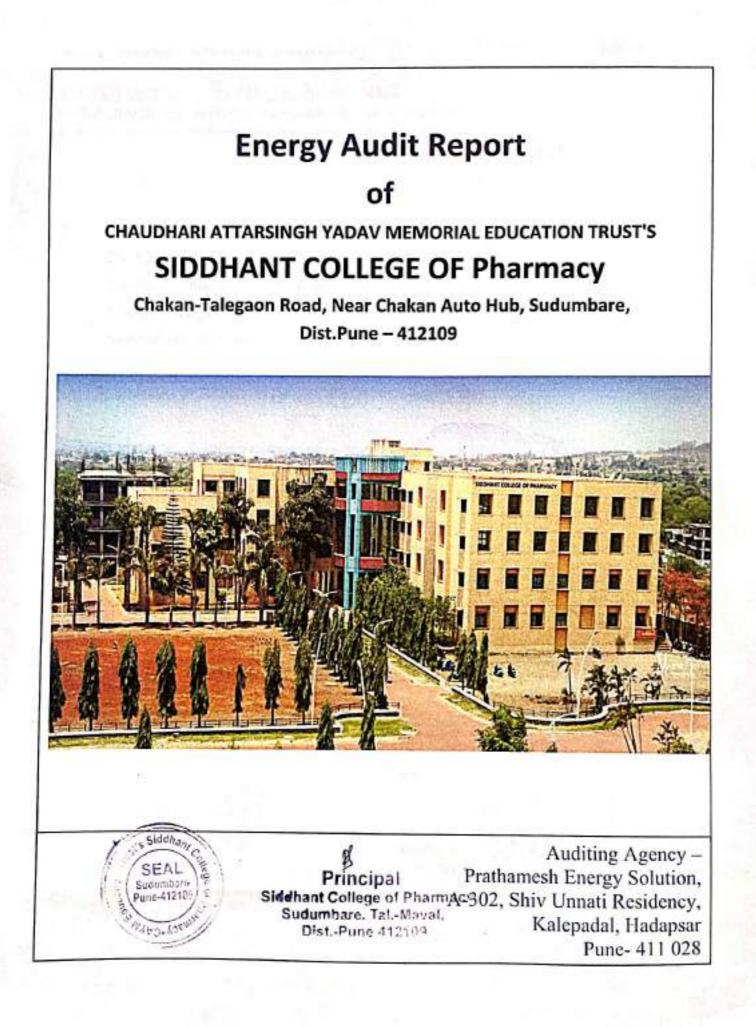
### Green Audit: Environment conservation opportunities:

- Plants/Trees in the college campus may be designated with botanical name and specific number on the basis of year of plantation. There will be brick arrangement at the bottom to supply water to the plant.
- Water management system must be in place. Reduction in water consumption by addressing leakages of taps and other miscellaneous utilities. Installation of flow meters which will help in reduction of water consumption. TOD can be implemented for pumping application.
- Rainwater harvesting pipe which collects rain water from respective building may have filter and properly charge the ground through ring well. Ring well can constructed near the rain water collection area, the approximate expenditure to construct the ring well will be @ Rs. 30,000/- per ring well.
- Provide firefighting system in the institute buildings. Also firefighting extinguishers at major places like electrical junction box, DG set room, Laboratories etc. required nos. of dustbins at respective locations in the college campus.
- Vermi-culture composting plant should be installed and the organic compost from the same will be either utilized for the plants/trees and maintaining greenery in the college campus or sell for organic farming.
- It is suggested to display Energy conservation slogans boards in the college campus and classroom to make awareness about importance of energy saving.



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Prathamesh Energy Solution, Pune



## Prathamesh Energy Solution

A-302, Shiv Unnati residency, Kalepadal, Hadapsar, Pune-411028

## Ref: PES/SCoP/2022-23/15

Date:

To,

The Principal Siddhant College of Pharmacy Chakan-Talegaon Road, Sudumbare, Dist.Pune – 412109

Sub: Submission of Report on Energy Audit of College Campus

Respected Sir,

Please find enclosed herewith the report

Thanking you Yours faithfully

For Prathamesh Energy Solution

Authorized Signatory





Principal Siddhant College of Pharmacy Sudumbare, Tal.-Maval, Dist.-Pune 412109

Prathamesh Energy Solution, Pune

2022-23

# **Prathamesh Energy Solution**

A-302, Shiv Unnati Residency, Kalepadal, Hadapsar, Pune 411028

Ref: PES/EEP/SCoP /22-23/11

### CERTIFICATE

This is to certify that we have conducted Energy Audit at Siddhant College of Pharmacy Chakan-Talegaon Road, Sudumbare, Dist. Pune – 412109, in the Academic year 2022-23

.The College has adopted following Energy Efficient practices:

- > Usage of Energy Efficient LED Fittings
- Maximum usage of Day Lighting
- Installation of Roof Top Solar PV Plant.
- > Green Campus
- Rain water Harvesting system

We appreciate the support of Management, involvement of faculty members and students in the process of making the Campus Energy Efficient.

For.

Prathamesh Energy Solution,



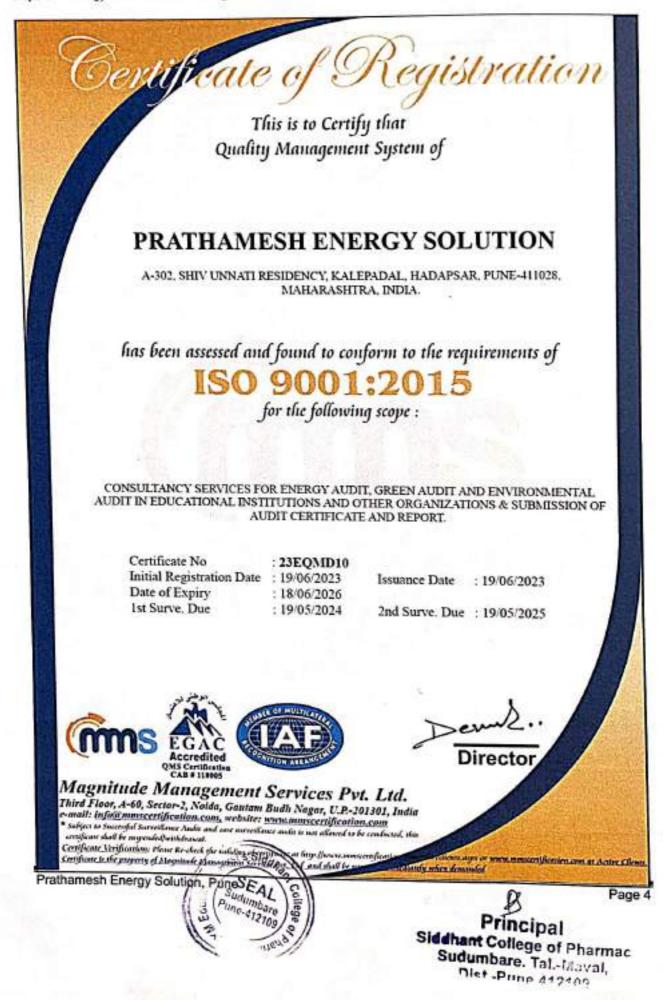


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Report on Energy Audit- Siddhant College of Pharmacy, Pune

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## ACKNOWLEDGEMENT

We at Prathamesh Energy Solution, Pune, express our sincere gratitude to the management and Principal of Siddhant College of Pharmacy, Pune for awarding us the assignment of Green and Environmenta Audit of their College campus located at Chakan-Talegaon Road, Sudumbare, Dist. Pune

We are very much thankful to

- > Hon'ble Rajendra Singh Yadav, Founder, President, Siddhant Group of Institutes (SGI), Sudumbare, Pune
- > Hon'ble Siddhant Yadav, Vice President, SGI, Sudumbare, Pune
- > Hon'ble Mihir Yadav, Vice President, SGI, Sudumbare, Pune
- > Mrs. Shanan Mihir Yadav, Director, SGI, Sudumbare, Pune
- > Dr. R. K. Dumbare , Principal, Siddhant College of Pharmacy, Pune
- > Dr. Swati Deshmukh, Associate Professor & HoD, Siddhant College of Pharmacy,
- Mrs. Swapnali Girme, Assistant Professor & Coordinator, Siddhant College of
- Pharmacy, Pune

for giving us opportunity to conduct detailed energy audit of the institute and provide all the required data and information promptly for the smooth conduction of detailed energy and green audit.

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

We are also thankful to all the technical staff and office staff for helping during the measurements at the electrical distribution center.

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## EXECUTIVE SUMMARY

After the Field measurements & analysis, we present herewith important observations made and various measures to reduce the Energy Consumption & mitigate the CO<sub>2</sub> emissions.

 Siddhant College of Pharmacy, Pune, consumes electrical Energy in majority used for various gadgets & office operations.

2. The various projects already implemented by the College are

- Installed solar roof top plant of capacity 221kWp on the campus building roof. At present solar roof top is with net metering and it is meeting requirement of electricity demand of college campus buildings in the premises.
- > Usage of natural day lights and natural air circulation
- > Usage of Natural Day light in corridors specifically
- > Usage of LED lighting for Admin & outdoor lighting
- > Initiatives for plastic free campus

### 3. Important Parameters: Electrical Energy:

Electricity is used for different purposes and at different sections in the college campus. The details of electricity distribution as mentioned below.

Sr. No.	Consumer No.	Electrical Meter No.	Location/Purpose	Payee
	181029037080	055-XE474326	College building/building operation	M/S. CHAUDHARI ATTARSINGH YADAV MEMO.EDU.TRUST

The important parameters of electrical consumption as per Consumer no. in the campus are mentioned as below.

Sr. No	Consumer No.	Parameter	Max	Min	Average
NO	And	Units consumed, kWh	21502	2284	5458.5
1	181029037080	Electricity Bill amount	358940	105977	149911.2
		Total average units consumed per month, kVAh			5458.5

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4. Important Parameters:	CO <sub>2</sub> Emissions	(Average, MT/Annum)
4. Important Parameters:	CO <sub>2</sub> Emissions	(Average, mineral

695	Consumer No.	Particulars	Value MT
No	and the second second	CO2- Emissions- Electricity Usage	52.40
1	170019005146	CO2- Emissions- Electricity coop-	52.40
		Total	02.40

On the basis of average electricity consumption CO<sub>2</sub> emission is 52.40MT /annum. In addition to this LPG is being consumed for canteen for food preparation. Nearly LPG consumption annually is 300 commercial cylinders i.e. 900 kg/annum. On the basis of average LPG usage CO<sub>2</sub> emission is 0.9MT/annum.

## 5. Benchmark: In terms of Electrical Energy & CO<sub>2</sub> emissions:

We now present two important benchmarks in respect of Electrical Energy consumption & CO<sub>2</sub> emissions as under.

and the last	Dudiaulare	Value	Unit
No	Particulars	0.031	kVAh/sq. ft.
1	Electrical Energy consumed		
3	CO2- Emissions	0.29	Kg per annum /sq. ft.

### 6. Recommendations:

We present herewith various proposals to reduce the Electrical Energy demand and reduce the CO<sub>2</sub> emissions

No	Recommendation	Annual saving potential in kWh /Kg of LPG	Annual Saving Potential in MT of CO <sub>2</sub>	Annual monetary gain, Rs.
1	Solar street lights	262.8 kWh	0.21	2628
2	Solar powered light for hoarding	-	-	-
3	Solar charging stations	-	-	
	Total	262.8	0.21	2628

### Notes & assumptions:

- 1 Unit of Electrical Energy releases 0.8 Kg of CO<sub>2</sub> into atmosphere
- 2. 1 Kg of LPG releases 3 Kg of CO2 into atmosphere

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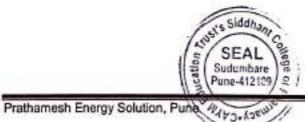
- 3. Daily working hours-10
- 4. Annual working Days-280
- 5. Average Rate of Electrical Energy- Rs 10 per kWh

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Report on Energy Audit- Siddhant College of Pharmacy, Pune

## ABBREVIATIONS

DP	: Double Pole
CFL	: Compact Fluorescent Lamp
EESL	: Energy Efficiency Services Limited
FP	Feeder Pillar     Maharashtra State Electricity Distribution Company Ltd.
MSEDCL	: Maharashtra State Electricity Distributer (
MEDA	: Maharashtra Energy Development Agency
MIDC	: Maharashtra Industrial Development Corporation
v	: Voltage
1	: Current
kW	; kilo-Watt
kVA	: Apparent Power
kVAr	: Reactive Power
PF	: Power Factor
kWp	: Kilo Watt peak



Principal Sudumbare, Tal.-Maval, Dist.-Pune 412109.

### CHAPTER-I ENERGY AUDIT: INTRODUCTION

#### 1.1 Objectives:

- 1. To study present level of Energy Consumption
- 2. To Study the present CO2 emissions
- 3. To assess the various equipment/facilities from Energy efficiency aspect
- 4. To measure various Electrical parameters
- 5. To study Scope for usage of Renewable Energy
- 6. To study various measures to reduce the Energy Consumption

### 1.2 Audit Methodology:

- 1. Study of connected load
- 2. Study of various Electrical parameters
- 3. To prepare the Report with various ENCON measures with payback analysis

#### 1.3 Energy Audit Instruments:

- 1. Portable Power Analyzer
- 2. Lux meter
- 3. Anemometer
- 4. Digital Temperature Indicator
- 5. CO<sub>2</sub> Meter
- 6. Water TDS meter

### 1.4 General Details of Siddhant College of Pharmacy, Pune

No	Head	Particulars
1	Name of Institution	Siddhant College of Pharmacy, Pune
2	Address	Chakan-Talegaon Road, Sudumbare, Dist.Pune – 412109
3	Year of Establishment	2004
4	Salient Features	Affiliated to Savitribai Phule Pune University
4	Courses offered	B. Pharmacy M. Pharmacy ( Pharmaceutical Ceutics, QAT)
5	No of Students	397
6	Total built up area	6557 Sq. ft.

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### CHAPTER-II STUDY OF CONNECTED LOAD

In this chapter, we present the details of various Electrical loads as under

## 2.1 Study of Fitting wise Connected Load:

Sr. No.	Name of Appliance	Wattage/unit	Quantity	Total Wattage kW
1	Fan	70	150	10.5
2	Tube light	18	300	5.4
3	Desktop	150	62	9.3
4	Printer	50	11	0.55
5	AC	1500	1	1.5
6	Water cooler	352	1	0.352
7	LED street lights	100	31	3.1
8	Water Pump	750	1	0.75
9	LED Display	150	2	0.3
10	Smart Board	220	2	0.44

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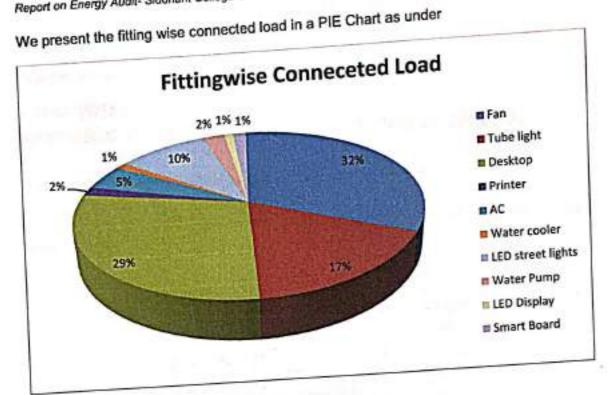
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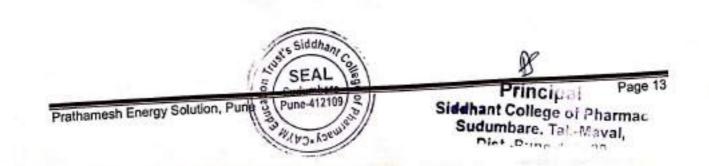
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## CHAPTER-III HISTORICAL DATA ANALYSIS: ELECTRICAL ENERGY

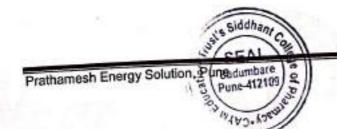
In this chapter, we present the analysis of last year Electricity Bills

## 3.1 Consumer No. 181029037080

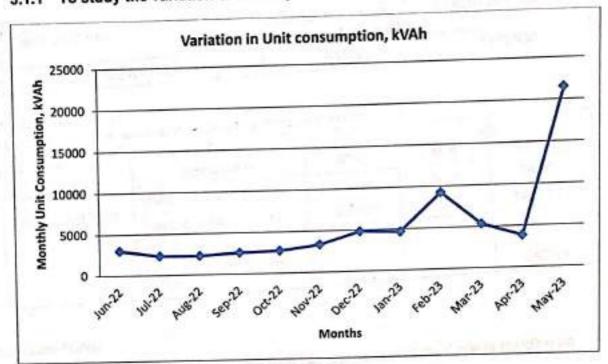
This consumer is the major contributors for billing. Monthly consumption for last few months and bill amount is as follows.

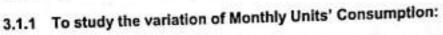
Sr. No	Month	kVAh	Amount
1	May-23	21502	358940
	April-23	3805	140921
2	March-23	5313	148093
3		9228	193878
4	Feb-23	4636	139895
5	Jan-23	4816	143529
6	Dec-22	3337	121916
7	Nov-22	2712	112455
8	Oct-22	2576	110397
9	Sep-22	2284	105977
10	Aug-22	2325	106600
11	July-22		116333
12	June-22	2968	1798934
13	Total	65502	and the second se
14		5458.5	149911.2
1		21502	358940
1		2284	105977

2022-23: 181029037080 Tabl

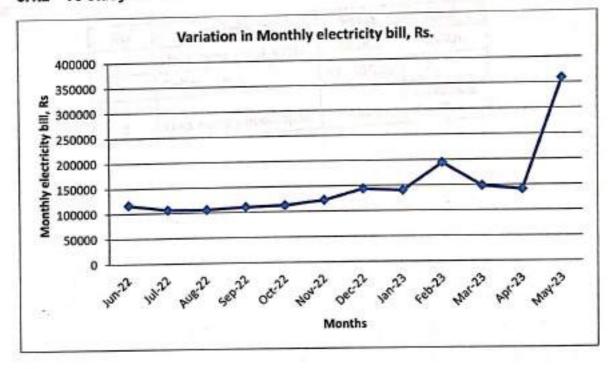


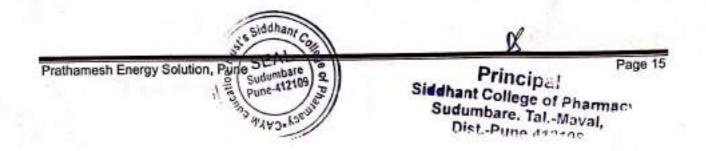
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## 3.1.2 To study the variation of Monthly Electricity Bill:





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3.2 Su	mmary:		Annual Bill, Rs
	Consumer No.	Consumption, kVAn	1798934
No.	101020037080	65502	1100000
1	181029037080	11	

## 3.3 Key Inference drawn:

ve analysis, we present following important parameters:

Sr.	Consumer No.	Parameter	Max	Min	Average	
No				2284	5458.5	
1	of the second second of	Units consumed, kVAh	21502		149911.2	
	181029037080	37080 Electricity Bill amount 35894	358940	105977	1400111	
	a h-cardo far a an	Total average units consumed per month, kVAh			5458.5	

## 3.4 Benchmarking:

Now we compute the Electrical Energy Consumed per square feet of the College Building as under

Na	Parameter	Value	Unit
No	Units consumed, kWh	5458.5	kVAh
1	College area	177066.33	Sq. ft.
3	Unit consumed/sq. ft.	0.031	kVAh/sq. ft.

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## CHAPTER-IV CARBON FOOTPRINTING

A Carbon Foot print is defined as the Total Greenhouse Gas emissions, emitted due to various activities.

In this we compute the emissions of Carbon-Di-Oxide, by usage of the various forms of Energy used by the College for performing its day to day activities. The college uses electrical energy for operating various electrical gadgets.

We herewith furnish the details of electrical Energy consumption consumer number wise as under

Sr. No	Month	kVAh
	May-23	21502
1	April-23	3805
2	March-23	5313
3	and the second se	9228
4	Feb-23	4636
5	Jan-23	4816
6	Dec-22	
7	Nov-22	3337
8	Oct-22	2712
9	Sep-22	2576
10	Aug-22	2284
	July-22	2325
11	June-22	2968
12	Total	65502
13	Average	5458.5
14	Max	21502
16	Min	2284

4.1 Month wise Consumption of Electrical Energy: 181029037080



## 4.2 Basis for computation of CO<sub>2</sub> Emissions:

The basis of Calculation for CO<sub>2</sub> emissions due to Electrical Energy are as under

1 Unit (kWh) of Electrical Energy releases 0.8 Kg of CO<sub>2</sub> into atmosphere

Based on the above Data we compute the CO<sub>2</sub> emissions which are being released in to the atmosphere by the College due to its Day to Day operations.

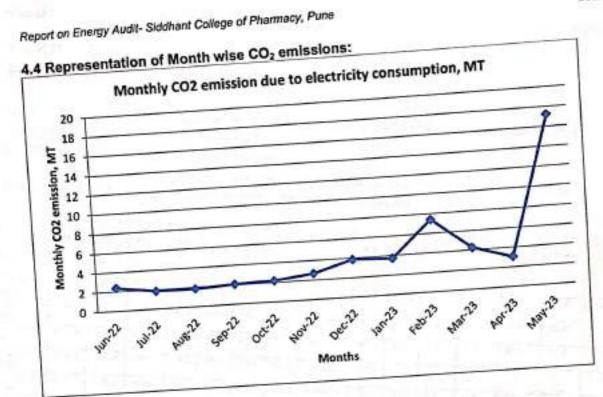
4 3 Month wise CO2 Emissions: 1810290370	sions: 181029037080	080
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Sr. No	Month	Electrical Energy Consumed, kVAh	CO2 Emissions due to Electricity, MT
1	May-23	21502	17.20
2	April-23	3805	3.04
3	March-23	5313	4.25
4	Feb-23	9228	7.38
5	Jan-23	4636	3.71
6	Dec-22	4816	3.85
7	Nov-22	3337	2.67
8	Oct-22	2712	2.17
9	Sep-22	2576	2.06
10	Aug-22	2284	1.83
11	July-22	2325	1.86
12	June-22	2968	2.37
13	Total	65502	52.40
14	Average	5458.5	4.37
15	Max	21502	17.20
16	Min	2284	1.83

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## 4.5 Benchmarking:

Now we compute the CO2 emissions per sq. ft. basis as under:

10000	Value	Unit
No Parameter	stants - up to a second	MT/annum
1 CO2 emissions	52.40	
	177066.33	Sq. ft.
2 College area		Kg of CO <sub>2</sub> per
3 CO2 emissions/sq. ft.	0.29	annum/sq. ft.
3 CO2 emissions/sq. m		

Sudhant College	Principal Siddhant Gollege of Phampage 19
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### CHAPTER-V ELECTRICAL MEASUREMENTS

In this Chapter, we present the details of measurements at the distribution center and meter room of Siddhant College of Pharmacy, Pune

5.1 Measurement at Main Incomer feeder:

With the help of power analyzer various electrical parameters like voltage, current, KW and PF are measured. The sample extract of measured data is as follows.

Date:	Time:	U12	U23	U31	A1 mms	A2 mms	A3 ms	F	PT (W)	PT (kW)	PFT	U12 THDr	U23 THDr	U31 THDr	A1 THDr % r	A2 THDr % r	A3 THD
		rms V	V	V	A	A	A	Hz	w	kW		%r	% r	% r	101		
-												1.1	1.3	0.9	15.6	7.3	6.7
5/21/2023	12:34:00 PM	409.6	407.6	409	79	61.5	58.9	50	40059.2	40.1	0.84	1.2	1.3	0.9	16.6	7.3	6.8
\$/21/2023	12:35:00 PM	411.6	409.6	411.3	80.6	61.4	59.1	49.9	40234.6	40.2	0.83	1.2	1.3	0.9	16.7	7.3	6.8
8/21/2023	12:36:00 PM	411.9	409.8	411.6	80.7	60,7	59.1	49.9	39986.8	122	1993	1.2	1.3	0.9	16	7.3	6.8
6/21/2023	12:37:00 PM	410.4	408.5	410.2	79.7	60.6	58.9	49.9	39826.2	39.8	0.84	18.2	1.22	0.9	16	7.1	6.7
6/21/2023	12:38:00	410.1	408.2	409.9	80	61.3	59.7	49.9	40422.3	40.4	0.84	1.1	1.3	S.S	1991		6.7
6/21/2023	PM 12:39:00	409.7	408.3	410	91.3	61,4	60.2	49.9	40599.3	40.6	0.79	1.1	1.3	0.9	13.9	7.1	162
6/21/2023	PM 12:40:00	410.1	408.7	410.7	96.6	61.5	59.9	49.8	40498.0	40.5	0.76	1.1	1.3	0.9	13.1	7.1	6.7
6/21/2023	PM 12:41:00	411	409.7	411.5	96.6	61.6	60.2	49.8	40699.1	40.7	0.77	1.1	1,2	0.9	13	7.1	6,7
6/21/2023	PM 12:42:00	411.9	410.5	412.1	96.5	61,7	60.7	49.8	40989.3	41.0	0.77	1.1	1.3	0.9	12.9	7.1	6.7
6/21/2023	PM 12:43:00	411.7	410.4	412.1	96	61.7	60.7	49.8	40982.2	41.0	0.77	1.2	1.3	0.9	12.7	7.1	6.7
6/21/2023	PM 12:44:00	409.6	408	409.8	95.7	61.2	60.5	49.8	40573.5	40.6	0.77	1.2	1.3	0.9	12.6	7	6.4
6/21/2023	PM 12:45:00	408.3	406.9	408.4	95.5	60.6	60.9	49.8	40510.4	40.5	0.77	1.2	1.2	0.9	12.7	7.1	6.3
6/21/2023	PM 12:46:00	409	407.5	409	95.5	60.6	61.1	49.9	40652.2	40.7	0.77	1.1	1.2	0.9	12.8	7.1	6.3
6/21/2023	PM 12:47:00	408.3	406.8	408.4	95.1	60,4	60.9	49.8	40492.5	40.5	0.77	1.1	1.2	0.9	12.6	7.1	6.3
6/21/2023	PM		406.5	408.4	83.3	60.2	60.5	49.8	40291.8	40.3	0.83	1.1	1.3	0.9	14.6	7.1	6.3
6/21/2023	PM		407.7	409.5	74.1	60.2	60.3	49.9	40305.3	40.3	0.87	1.1	1.3	0.9	16.4	7.1	6.2
6/21/2023		411.1	408.6	410.4	74.7	58.7	60,4	49.9	39712.0	39.7	0.86	1.2	1.2	0.9	16.3	7.3	6.2
6/21/2023		411.6	409.4	410.9	76.4	58.4	60.7	49.9	39724.1	39.7	0.85	1.1	1.2	0.9	15.9	7.4	6.2
6/21/2023		410.6	408.4	410.1	82.8	58.1	60.9	49.8	39666.0	39.7	0.82	1.1	1.2	0.9	14.6	7.4	6.3
6/21/2023		411.7	409.5	411.2	82.5	59	60.3	49.0	39825.8	39.8	0.82	1.1	1.2	0.9	14.7	7.3	6.3
6/21/2023		0 412.0	5 410.3	3 412	82.6	60.6	59.8	49.9	40275.7	40.3	0.82	1.1	1.2	0.9	14.7	7.2	6.4
6/21/2023		0 413.4	411.3	2 412.9	83.7	61.9	59.3	2 50	40616.4	40.6	0.8	2 1.1	1.2	0.9	15.2	7	6.
6/21/2023		0 415	412.3	3 414.2	77	63.6	59.3	2 50	41360.4	41.4	0.80	5 1.1	1.2	0.9	17	7	6.
6/21/2023	PM 3 12:57:0 PM	0 417.	3 414.	8 416.5	76.5	63.7	7 59.4	4 50	41567.0	5 41.6	8 0.8	8 1.2	1.2	0.9	16.8	7	6.

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6/21/2023	12:58:00	418.9	416.4	418,1	76.9	64.3	59.4	50	41957.5	42.0	0.86	1.2	1.3	0.9	16.7	6.8	6.5
6/21/2023	PM 12:59:00	418.8	416.3	418.1	77.6	64.9	59.4	50.1	42159.8	42.2	0.86	1.2	1.3	0.9	17	6.9	6.5
8/21/2023	PM 1:00:00	420.1	417.4	419.4	78.2	65.2	59.6	50.1	42438.2	42.4	0.86	1.3	1.3	0.9	17.2	6.9	6.4
6/21/2023	PM 1:01:00	421.6	418.7	420.8	77	65.5	59.6	50.1	42676.6	42.7	0.86	1.3	1.3	1	16.3	6.8	6.4
8/21/2023	PM 1:02:00	415.8	413	415.3	76.4	64.6	56.8	50.1	41386.3	41.4	0.87	1.3	1.3	1	16.3	6.9	6.2
8/21/2023	PM 1:03:00	416	413.3	415.5	76.5	65.3	56.2	50	41719.6	41.7	0.87	1.2	1.3	0.9	16.2	6.7	6.2
5/21/2023	PM 1:04:00	416.6	413.9	416	76.6	66.4	57	50	42499.6	42.5	0.88	1.2	1.3	1	15.5	6.7	6.4
6/21/2023	PM 1:05:00	415.1	412.6	414.4	76.4	66.2	57.5	50	42581.4	42.6	0.88	1.2	1.3	0.9	15.8	6.6	6.2
5/21/2023	PM 1:06:00	414.2	411.6	413.4	76.7	66.3	59.6	49.9	43218.2	43.2	0.89	1.2	1.3	1	16.1	6.6	6.1
6/21/2023	PM 1:07:00	413.1	410.6	412.3	76.2	66.1	60	49.9	43208.3	43.2	0.89	1.2	1.3	1	15.8	6.6	6
6/21/2023	PM 1:08:00	412.3	409.7	411.6	76.4	66.2	60	49.9	43149.2	43.1	0.89	1.2	1.3	1	15.7	6.6	6
6/21/2023	PM 1:09:00	413.1	410.4	412.3	75.9	66.5	60	49.9	43367.3	43.4	0.9	1.2	1.3	1	15.8	6.5	6
6/21/2023	PM 1:10:00	413.5	411.1	412.8	76.5	66.6	60.3	49.9	43506.5	43.5	0.89	1.2	1.3	1	16	6.5	6.1
6/21/2023	PM 1:11:00	414.2	411.7	413.7	77.8	66.4	60.5	49.9	43583.3	43.6	0.89	1.2	1.3	0.9	16.6	6.4	6.1
6/21/2023	PM 1:12:00	415.5	412.6	415	77.4	66.5	60.5	49.9	43769.5	43.8	0.89	1.2	1.3	1	15.9	6.5	6.1
6/21/2023	PM 1:13:00	414.5	411.7	414.1	77.1	66	60.1	49.9	43373.2	43.4	0.89	1.2	1.3	1	15.7	6.4	6.2
6/21/2023	PM 1:14:00	415.2	412.4	414.8	77.3	65.7	60.2	49.9	43325.4	43.3	0.89	1.2	1.3	1	15.8	6.4	6.2
6/21/2023	PM 1:15:00	415.9	413.2	415.6	77.6	64.6	59.7	49.9	42743.3	42.7	0.88	1.2	1.4	1	15.9	6.5	6.3
6/21/2023	PM 1:16:00	415.2	412.5	414.9	78.1	62.5	60.4	49.9	42190.8	42.2	0.87	1.2	1.3	1	16.2	6.7	6.2
6/21/2023	PM 1:17:00	416.6	414	416.2	77.7	62.5	62.2	49.9	42898.3	42.9	0.88	1.2	1.3	1	16.3	6.7	6
6/21/2023	PM 1:18:00	415.2	413.1	415.1	91.4	62.6	62.9	49.9	43113.1	43.1	0.82	1.2	1,3	1	13,8	6.7	6
6/21/2023	PM 1:19:00	415.6	413.5	415.5	84.7	51.8	52	49.9	36023.6	36.0	0.77	1.1	1.3	0,9	14.8	8.4	7.6
6/21/2023	PM 1:20:00	414.8	412.7	414.7	83.9	50.6	51	50	35306.9	35.3	0.77	1.1	1.3	1	15.6	8.6	7.7
6/21/2023	PM 1:21:00	413.8	411.7	413.6	83.2	50.5	50.9	50	35213.8	35.2	0.78	1.2	1.3	1	15	8.7	7.8
6/21/2023	PM 1:22:00	413.7	411.7	413.3	82.9	50.1	51	50	34971.7	35.0	0.77	1.2	1.4	1	15.3	8.8	7.8
6/21/2023	PM 1:23:00	412.9	411	412.4	84.1	49.7	51.5	50	34776.6	34.8	0.76	1.2	1.4	0.9	16.1	8.9	8
6/21/2023	PM 1:24:00	413	410.4	412.1	74.2	49.7	50.3	50	34010.6	34.0	0.81	1.2	1.4	1	16.7	8.8	8.3
6/21/2023		412.6	409.9	411.8	70.3	49.6	49	50	33523.0	33.5	0.82	1.1	1.3	0.9	18.5	8.8	8.6
6/21/2023	PM 1:26:00	412.5	410	411.7	64.5	49.5	48.6	49.9	33239.5	33.2	0.85	1.2	1.4	1	20.2	8.8	8.6
6/21/2023	PM 1:27:00	414.9	412.3	414	65.4	49.7	49.6	50	33614.4	33.6	0.85	1.2	1.4	0.9	21.1	8.8	8.4
6/21/2023	PM 1:28:00	415.4	412.5	414.5	65.1	49.8	49.6	50	33671.0	33.7	0.85	1.2	1.4	1	20.5	8.8	8.4
6/21/2023	PM 1:29:00	413.8	411.2	412.9	65.3	50.1	49.5	50	33658.2	33.7	0.85	1.2	1.4	1	20	8.8	8.4
6/21/2023		413.2	410.5	412.4	65.8	49.9	49.5	50	33568.5	33.6	0.85	1.2	1.4	1	20.3	8.8	8.3
6/21/2023		413.2	410.4	412.2	65.7	49.5	49.7	50	33485.1	33.5	0.85	1.2	1.4	0.9	20.8	8.9	8.3
Esc. Service	PM	12602	1.000	1.00	Jare S.	100	1980	120	1436,4570	10000	10000	1		0.0	20.0	6.9	0.3

PM Prathamesh Energy Solution, Puher L -2

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6/21/2023	1:32:00 PM	415.2	412.3	414.3	66.6	47.7	49.1	50	32759.7	32.8	0.83	1	1.2	0.9	20.7	9.4	8.6
6/21/2023	1:33:00 PM	413.6	411.2	413	71.5	45.1	46.2	49.9	30388.0	30.4	0.76	1.1	1.3	0.9	18.2	9.7	8.9
6/21/2023	1:34:00 PM	412.2	410.2	411.9	82.5	44.3	46.3	49.9	30019.0	30.0	0.7	1.1	1.3	0.9	15.9	9.8	9
6/21/2023	1:35:00 PM	108	107.5	107.9	21.9	11.1	12	49.6	7577.4	7.6	0.68	1.1	1.3	1.4	14.5	10.2	9
6/21/2023	1:36:00 PM	0	0	0	0	0	0		0.0	0.0							
6/21/2023	1:37:00 PM	0	0	0.	71	36	29.3	50.2	0.0	0.0					13.6	11	8.5
6/21/2023	1:38:00 PM	0	0	0	79	41.3	37.6	50.3	0.0	0.0					14.6	12.6	18
6/21/2023	1:39:00 PM	0	0	0	72,7	40	35.8	50.5	0.0	0.0					14.5	12.6	19,4
6/21/2023	1:40:00 PM	0	0	0	65.9	39.3	34.9	50.6	0.0	0.0			***		15.2	12.2	18.2
6/21/2023	1:41:00 PM	0	0	0	65	39.2	35.1	50.6	0.0	0.0					15,4	12.1	17.2
6/21/2023	1:42:00 PM	0	0	0	64.7	38.8	34.7	50.6	0.0	0.0					15.9	11.8	17.2
6/21/2023	1:43:00 PM	0	0	0	62.7	38.5	33.8	50.7	0.0	0.0					15.7	11.6	17.3
6/21/2023	1:44:00 PM	401.4	400.2	401	62.5	38.3	33	49.9	11376.4	11.4	0.36	1.6	1.7	1.4	17.3	8.1	10
6/21/2023	1:45:00 PM	422.5	421.3	422.2	65.5	38.6	33.2	49.8	26107.7	26.1	0.74	1.4	1.6	1.2	23.6	11.5	13.3
6/21/2023	1:46:00 PM	419.5	418.1	419.2	63.2	40.1	33.6	49.8	26537.1	26.5	0.77	1.5	1.6	1.2	20.4	11.8	15.9
6/21/2023	1:47:00 PM	418	416.5	417.6	65	39.6	33.7	49.9	26300.3	26.3	0.76	1.4	1.6	1.2	22	11	14.2
6/21/2023	1:48:00 PM	417.9	416.2	417.5	63.3	39.7	34.2	49.9	26515.0	26.5	0.77	1.3	1.6	1.2	21.1	10.8	13.5
6/21/2023	1:49:00 PM	417.8	416.2	417,5	63.7	40.2	34.5	49.9	26848.8	26.8	0.78	1.3	1.6	1.2	21.8	10.7	13.2
6/21/2023	1:50:00 PM	419.2	417.6	419.2	62.4	43.5	35.2	50	28448.7	28.4	0.81	1.4	1.6	1.2	21.6	9.8	12.8
6/21/2023	1:51:00 PM	419.4	417.7	419,4	62.6	44.8	35.5	50	29058.4	29.1	0.82	1.4	1.6	1.2	21.6	9.3	12.7
6/21/2023	1:52:00 PM	419,4	417.7	419.5	62.8	44.6	35.5	49.9	26993.0	29.0	0.81	1.4	1.6	1.2	22.1	9.3	12.8
6/21/2023	1:53:00 PM	419,4	417.6	419.4	62.9	44.8	35.3	49.9	28894.6	28.9	0.81	1,4	1.6	1.2	22.2	9,4	13.1
6/21/2023	1:54:00 PM	419.2	417.4	419	64.4	45.3	35.3	49.9	29102.3	29.1	0.8	1.4	1.6	1.2	22.6	9.5	13.3
6/21/2023	1:55:00 PM	419.3	417.4	419.2	63.9	45.5	35.3	49.9	29226.6	29.2	0.81	1.4	1.6	1.2	22.6	9.5	13.3
6/21/2023	1:56:00 PM	419	416.9	418.6	63.3	45.5	35.3	49.9	29161.8	29.2	0.81	1.4	1.6	1.2	22	9.6	13.2
6/21/2023	1:67:00 PM	419.1	417.1	418.6	63.6	45.5	35.1	49.9	29109.2	29.1	0.81	1.3	1.6	1.1	22.3	9.5	13.2
6/21/2023	1:58.00 PM	419.4	417.4	418.9	65	46.2	34.8	50	29259.4	29.3	0.8	1.4	1.6	1.2	22.2	9.2	13.4
6/21/2023	1:59:00 PM	420.4	418.3	420	63.7	46.2	35.1	50	29476.1	29.5	0.81	1.4	1.6	1.2	21.7	9.2	13.3
6/21/2023	2:00:00 PM	420.8	419	420.5	64.9	41.1	35.3	50	27621.3	27.6	0,78	1.4	1.6	1.2	22	10.6	13.5
6/21/2023	2:01:00 PM	419.6	418.1	419.4	64.3	41.2	35.3	50	27596.1	27.6	0.78	1,4	1.6	1.2	21.5	10.6	13.4
6/21/2023	2:02:00 PM	416.9	415.3	416.8	63.8	41.6	35.2	50	27546.9	27.5	0.79	1.3	1.5	1.1	21.3	10.7	13,4
6/21/2023	2:03:00 PM	415.6	413.9	415.4	63.9	41.5	35.6	50	27582.9	27.6	0.79	1.2	1.5	1.1	21.3	10.8	13.4
6/21/2023	2:04:00 PM	415.2	413.4	415.1	62.7	41.6	35.6	50	27627.8	27.6	0.8	1.3	1.5	1.1	20.6	10.8	13.4
6/21/2023	2.05:00	415.3	413.5	415.5	69.4	32	35.7	49.9	27844.5	27.8	0.81	12	1.5	1.1			13.6

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	leport on							_		-	873.2	26.9	0.8	11	3	1.4	1	1.1	19.4	10.8	14.3	
	2:06:00 PM	410.4	408	7 4	10.3	51.8	42.1	33.8	49.9	-	00000	26.6	0.79		.2	1.4	-	1.1	18.8	10.9	14,4	7
1/2023	2:07:00	408.1	406	.3 4	08.1	62.4	41.9	33.7	49.9		635.7	26.8	0.76		2	1.4	+	1.1	16.9	11.4	15	1
1/2023	PM 2:08:00	406.4	404	1.6 4	06.6	68.2	42.1	34.2	49.6		752.4		0.75		.1	1.4	-	1.1	17.2	11.1	14.3	5
1/2023	PM 2:09:00	404.8	403	3.2 4	105	68.8	41.7	33.9	49.8		3465.8	26.5			.1	1.3	-	1	16.9	11.3	14.3	5
Contract of the second	PM 2:10:00	404.3	403	2,5 4	404.4	68.8	41.7	34.3	49.		5567.4	26.6	0.75			1.3	-	1	16.5	11.2	14.4	4
21/2023	2:11:00	403.1	40	1.3	403.3	69.4	41.6	33.8	49.	1	6310.5	26.3	0.74		.1	1.3		1	16.5	10.9	14.	7
21/2023	PM 2:12:00	401.5	39	9.5	401.7	69.3	42.1	33.4	49.	8 2	6242.7	26.2	0.75		1.1	1.50	_	1	16.4	10.6	14/	6
21/2023	PM 2:13:00	401.0	3 39	9.5	401.6	69.3	42.6	33.	49.	8 2	6484.8	26.5	0.7	1	1.1	1.3		1	17.5	10.8	14.	9
21/2023	PM 2:14:00	400.	5 39	8.3	400.4	66.1	42.1	33	49	.8 2	6093.3	26.1	0.7		1.1	1.4		1	19.4	10.8	15.	4
/21/2023	PM 2:15:00	399.	3 39	97.1	398.9	61.2	42.4	32	49	.8 2	25741.6	25.7	0.8		1.1	1.3	-	1	100	10.9	15	22.
/21/2023	PM 2:16:00	397.	8 3	95.7	397.8	62.3	42.	1 31.	8 49	9 3	25482.8	25.5	0.7	9	1.1	1.3		1	20.3		15	22
/21/2023	PM 2:17:00	396.	6 3	94.9	396.7	71.1	42.	1 31.	7 45	9.9	25401.7	25.4	0.7	2	1.1	1.4	4	1	18.9	11		5.2
21/2023	PM 2:18:00	397		95.3	397	69.	41.	7 31	4 45	9.9	25198.6	25.2	2 0.7	3	1.1	1.3	3	1	17.7	11.1		
	PM 2:19:00	396	1	194	395.6	68.	9 41	31	.6 5	0	24924.4	24.5	9 0.1	13	1	1,	3	0.9	17.6	11.4	_	
5/21/2023	PM 2:20:00	395		393.4	395.4	62	40	6 31	7 5	0	24811.1	24	8 0.	78	1	1.	3	1	19.9	11.4		4.6
6/21/2023	PM	395		392.8	394.6	61.	9 40	4 31	4 5	0	24585.7	24.	6 0.	78	1.1	1.	3	1	20	11.2		4.6
6/21/2023	2:21:00 PM	394	_	392	393.9	-	2 40	7 3	1.8 4	9.9	24738.4	24.	7 0	78	1	1.	3	1	20.2	11.1		4.3
6/21/2023	PM			390.5	392.5	-	3 40	.6 3	1.9 4	9.9	24648.	24	.5 0	77	1.1	1	.3	1	20.2	11.3		4.5
6/21/2023	PM			391.3	393.5		il lan	2 3	3.9 8	50	25591.	7 25	.6 0	.79	1	1	.3	1	19.9	10.0	1	13.9
6/21/2023	PM	-		392.1	393.6			101日	3.2	50	25325.	5 25	3 0	.79	1	1	.3	1	19.7	10.	1	14.1
6/21/2023	PM	_			1000					50	24851.	9 24	9 0	.77	1	-	.3	1	20.1	11	1	14.6
6/21/2023	PM		3,4	391.8 393.3					2.5	50	25104	2 2	5.1 0	).77	1.1		1.3	1	20,3	11.	2	14.6
6/21/2023	PM		4.9					1		50	24595	4 2	4.6	0.76	1	+	1.4	1	20.4	11	5	15.3
6/21/202	PM		6.1	394.3	-				30	50	24404	.5 2	4.4	0.75	1	+	1.3	1	20.9	11	.5	15.8
6/21/202	3 2:29:0 PM		10.00	395.1	1,228	21.0				50	24634	4 2	4.6	0.76	0.1	9	1.1	0.9	20.3	11	.6	15.
6/21/202	3 2:30:0 PM	0 38	99.1	397.2	-	1	100	100	30.2	50	24062		4.1	0.75	0.	9	1.2	0.9	20.0	5 12	$\uparrow$	15.
6/21/202	3 2:31:0 PM	0 3	99.2	397.3		2			30.1	50	2352			0.74	0	9	1.2	0.9	20.	5 13	2.3	15
6/21/202		0 3	98.6	396.7					S. S.	49.9				0.7			1.2	0.9	20.	1 1	3	15
6/21/202		0 3	98.5	394.4	2				31.4		2320		23.1	0.6		.9	1.2	0.8	18	2 1	2.9	15
6/21/202	the second se	0 3	96.2	394.	7 396	S. 12	<u> </u>		31	50				0.6		.9	1.2	0.8	18	2 1	3	15
6/21/200		00 3	95.1	393.	8 395	13	2.1	37	29.8	50	2273		22.7				1.2	0.9	1.15		12.9	18
6/21/20		10 3	94.3	392.	8 394	1.5	72.6	37.6	29.4	50	2276		22.8	0.6		).9					13.4	1
6/21/20	23 2:375	00 3	93.2	392	.1 390	1	0	37.8	29.3	49.9			22.8	0.6		2	1.3	-				1
6/21/20		00 3	394.6	393	3 39	4.9	72.9	gan,	1/2	49.9	9 228	1.0	22.9	0.6	· .	100	1.3			1	13.4	1.2
6/21/20		00 3	397	395	.8 39	7.3	7156	Acia	智	49.	9 237	72.7	23.8	0.0		10	1.3		9 1	9.4	12.B	1
	PM				_	1 11	Pune-	12109	10	-	1000	-	1	-	P	rin	cip	al				

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2:40:00	397.4	395.9	397.4	65.9	41.1	31.3	49.9	24725 5	24.7	0.74	1	112	0.0	1022		
PM 2:41:00	396.9						325.		53.	13.51	18	100 m	224-		12.2	15.1
PM 2:42:00	395.2	393.6	12216)	100				0.5.00	18.22	1.0355.0	1	1.2	0.9	22.9	11.9	15.1
PM 2:43:00	396.3	394.8	396.4	70.3	1.000	1000		CHE LEGENIE			1					15.2
PM 2:44:00	396.4	394.9	396.3	70.7	44							1	123		1.1	14.9
2:45:00	395.9	394.3	395.8	68	43.9			,			<u></u>	100	1000	1386		14.3
2:46:00	395.9	394.3	395.6	66.5	43.9	1955				19.04	1		10.00	10000	(******)	14.2
2:47:00	397.1	395.2	396.6	63.1	43.9	32,4	2.62	1000000	10,010		1					14.3
2:48:00	397.3	395.4	396.8	65.7	44	32.2	49.9							133	Zana	13.8
2:49:00	397	395.2	396.4	64	43.9	33.1	50		236			S		1932	128	
2:50:00	397.4	395.6	396.7	62.8	43.9	33.3	1999		1.000	1992	3-	120	10000		1000	13.5
2:51:00	397.3	395.2	396.8	60.8	44.6	34.4	50	21-39-045	1000	200200	1000					13.7
2:52:00	397.7	395.4	396.9	60.9	44.6	34.6	50								13.0-	13.8
2:53:00	399.2	397.2	398.4	60.6	45.1	33.8	50	_			13	100			1920-	13.8
2:54:00	399.9	398	399.3	63.1	45.4	33.7	50	27040.5	1775	1000	12-1	125	199	100000	1000	14.1
2:55:00	400.4	398,2	399.9	61,6	45.6	33.8	50	27174.1	1000	100						14.3
2:56:00	400	398.1	399.6	61.4	45.6	34	50	27233.8								14.2
2:57:00	400.6	398.7	400.1	62.4	45.7	34	50	27264.8				100		5.5	1000	14.3
2:58:00	400.5	398.6	400	61.5	45.7	33.9	50	27195.9	10.24		. 3E _	188	1.	1000	1000	14,4
2:59:00	399.1	397.1	398.7	61.7	45.5	33.8	50	27024.5	100	1000		1000	-			14.3
3:00:00	401.1	399.2	400.9	60.2	45.9	33.8	50,1	27334.9	27.3							
3:01:00	401,5	399.4	401.1	58,9	45.5	32.3	50.1	26690.4	26.7			1.12		1.1.1.1.1		14.2
3:02:00	401.7	399.7	401.4	58.6	45.1	31.1	50	26071.5	26.1	Sec.		12.	1010	120-120		14,8
3:03:00	400.6	398.5	400.4	58.2	44.5	30.8	50	25704.1	10000	Canal.		100				15.6
3:04:00	401.2	399	400.8	57.5	43.8	30.8	50	Contraction of					-		. 300	15.6
3:05:00	400.1	398	399.4	53	40.8	27.1	50	23067.8			Sec.		1999	1000	1000	15.8
3:06:00	399.3	397.4	398.8	52.7	39.5	26.6	50	22393.4	1.20		1000	1	1	-	-	18.3
PM 3:07:00	401.5	399.5	401.1	53.5	35.8	25.7	50	0.000.000	and and	1000						18.4
PM 3:08:00	401.5	399.5	400.8	51.9	35.2		50					- B.S.	118	10.00	1223	19.2
PM 3:09:00	399	397.1	398.4					1.08633	1.35	133.3	1392	12220		-	_	20,6
PM 3:10:00	398.9	397.1	398.4	122.00	Same	200	1.10	0.00.000000	Course.	1000					15.3	21
PM 3:11:00	398.1	1000	1.1.1.1.1.1.1.1	Gass								1255		25.9	15.1	21.8
PM		1-1	1						1.2	1.1	10110	12.22	0.9	23.1	15	23
PM 3:13:00	397.7	396.5	1.6	1.	12523	10000	1000	Contraction of		1000		1.3	0.9	21.9	14.9	23.5
PM	201-4	Sudun	1.1.1.1.1.1.1	67.8	35	20.9	50	18617.8	18.6	0.59	1.1	1.3	0.9	19.1	15.1	24.4
	РМ           2:41:00           PM           2:42:00           PM           2:42:00           PM           2:43:00           PM           2:44:00           PM           2:45:00           PM           2:45:00           PM           2:46:00           PM           2:46:00           PM           2:49:00           PM           2:50:00           PM           2:55:00           PM           2:56:00           PM           2:56:00           PM           2:56:00           PM           2:56:00           PM           2:56:00           PM           2:56:00           PM           3:00:00           PM           3:00:00           PM           3:04:00           PM           3:05:00           PM           3:06:00           PM           3:06:00           PM	PM         396.9           2:41:00         396.3           PM         396.3           2:42:00         396.3           PM         396.3           PM         396.3           PM         396.4           2:42:00         396.3           PM         396.4           2:44:00         395.9           PM         397.1           2:46:00         397.3           PM         2:49:00         397.3           PM         2:50:00         397.3           PM         2:55:00         397.3           PM         2:55:00         397.7           PM         2:55:00         399.9           PM         2:55:00         400.4           PM         2:56:00         400.4           PM         2:56:00         400.6           PM         2:59:00         399.1           PM         3:00:00         401.5           PM         3:02:00         401.7           PM         3:03:00         400.6           PM         3:03:00         401.5           PM         3:03:00         401.5           PM         3:06:00	PM         Ref         Ref           2:41:00         396.9         395.6           PM         396.3         393.6           2:42:00         396.3         394.8           2:43:00         396.3         394.8           2:44:00         396.4         394.9           2:45:00         395.9         394.3           2:46:00         395.9         394.3           PM         397.1         395.2           PM         397.3         395.4           2:46:00         397.3         395.2           PM         399.3         397.2           PM         399.3	PM         Bit N         Bi	PM         SIGN         S	PM         R.R.         R	PM         Bits         B	PM         PM<	PM         CHO         CHO <thcho< th=""> <thcho< th=""> <thcho< th=""></thcho<></thcho<></thcho<>	PM         CHA         CHA <thcha< th="">         CHA         CHA</thcha<>	PM         DM         DM <thdm< th="">         DM         DM         DM<!--</td--><td>PM         Ends         E</td><td>PM         End         Ends         En</td><td>PA         Diff         GS         A.1         J.1         J.3         J.9         Z47.00         Z47.0         J.7         J.1         J.1         J.1         J.1         J.2         0.9           PA         396.3         395.6         396.7         67.1         41.4         31.5         49.9         Z4896.6         24.8         0.74         1         1.2         0.9           Z42.00         396.4         396.3         396.4         0.3         44         31.5         49.9         Z6567.7         25.7         0.73         1         1.3         0.9           Z44.00         396.4         396.3         396.4         63.4         42.7         64.99         Z5670.7         25.7         0.75         1         1.1.2         0.9           Z46.00         396.3         394.3         395.6         66.5         43.9         32.5         49.9         Z5690.0         25.9         0.76         1         1.3         0.9           Z46.00         397.3         395.2         396.4         64.4         43.9         33.3         50         25.9         0.76         1         1.3         0.9           Z460.00         397.3         395.2</td><td>PA         PA         PA         Sin         Sin</td><td>PAL         PAL         PAL</td></thdm<>	PM         Ends         E	PM         End         Ends         En	PA         Diff         GS         A.1         J.1         J.3         J.9         Z47.00         Z47.0         J.7         J.1         J.1         J.1         J.1         J.2         0.9           PA         396.3         395.6         396.7         67.1         41.4         31.5         49.9         Z4896.6         24.8         0.74         1         1.2         0.9           Z42.00         396.4         396.3         396.4         0.3         44         31.5         49.9         Z6567.7         25.7         0.73         1         1.3         0.9           Z44.00         396.4         396.3         396.4         63.4         42.7         64.99         Z5670.7         25.7         0.75         1         1.1.2         0.9           Z46.00         396.3         394.3         395.6         66.5         43.9         32.5         49.9         Z5690.0         25.9         0.76         1         1.3         0.9           Z46.00         397.3         395.2         396.4         64.4         43.9         33.3         50         25.9         0.76         1         1.3         0.9           Z460.00         397.3         395.2	PA         PA         PA         Sin         Sin	PAL         PAL

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/21/2023	3:14:00 PM	398.4	397.2	398.9	71.4	35	21	50.1	18669.0	18.7	0.57	1.1	1.3	0.9	18.8	15	24.6
/21/2023	3:15:00 PM	398.2	396.8	398.6	70.5	35	21.1	50.1	18713.7	18.7	0.58	1	1.3	0.9	18.3	14.8	24.2
V21/2023	3:16:00 PM	398.9	397.5	399.3	69.6	36.3	21.2	50.1	19169.4	19.2	0.59	1.1	1.3	0.9	18.5	14.1	23.7
v21/2023	3:17:00 PM	395.9	394.5	396.4	69.7	36	21	50.1	18948.8	18.9	0.59	1	1.3	0.9	18.7	14.2	23.6
3/21/2023	3:18:00 PM	396.3	394.9	396.7	69.1	35.8	21.1	50.1	18954.9	19.0	0.59	1.1	1.3	0.9	19.3	14.2	23.8
3/21/2023	3:19:00 PM	396	394.2	396.2	61.3	34.6	20.6	50.1	18357.3	18.4	0.63	1	1.2	0.9	22.8	14.8	24.5
\$/21/2023	3:20:00 PM	397.5	395.5	397.5	53.3	34.7	19.8	50.1	18149.3	18.1	0.69	1	1.2	0.9	25.9	15.3	25.2
5/21/2023	3:21:00 PM	394.9	392.9	394,8	58.5	34.7	19.6	50.1	18004.7	18.0	0.64	1	1.2	0.9	24,6	15,5	25.5
5/21/2023	3:22:00 PM	395	392.8	395	54.3	34.6	20.9	50.1	18363.7	18.4	0.69	1	1,1	0.9	25.2	15.4	23.8
6/21/2023	3:23:00 PM	395	392.6	395	54.4	34.5	21.3	50.1	18465.3	18.5	0.69	1	1.1	0.9	25.2	15.3	23.2
6/21/2023	3:24:00 PM	395.4	393.1	395.4	54.5	35.1	20.7	50.1	18517.8	18.5	0.69	1	1.2	0.9	25.3	15.1	23.6
6/21/2023	3:25:00 PM	395.7	393.7	396.1	53.3	34.6	21.1	50.1	18467.9	18.5	0.7	1	1.2	0.9	24.9	15.3	22.8
6/21/2023	3:26:00 PM	394.8	392,7	394.9	52.4	35	20.5	50.1	18379.9	18.4	0.7	1	1.1	0.8	24.8	15.2	23.2
6/21/2023	3:27:00 PM	397.1	394.8	397.1	51.5	34.2	18.5	50.1	17546.3	17.5	0.68	1	1.2	0.8	24.8	15.4	25.8
6/21/2023	3:28:00 PM	396	393.9	396.2	51.9	34.6	18.4	50.1	17637.2	17.6	0,68	1	1.2	0.9	24.9	15.4	26.1
6/21/2023	3:29:00 PM	395.9	393.8	396.2	52.3	34.6	18.4	50.1	17603.9	17.6	0.68	1	1.2	0.9	25	15.9	26.3
6/21/2023	3:30:00 PM	395.5	393.5	395.8	52.1	34.6	18.3	50.1	17589.5	17.6	0.68	1.1	1.2	0.9	24.6	16.2	26.3
6/21/2023	3:31:00 PM	396.5	394.4	396.8	52.2	35.3	18.5	50,1	17865,3	17.9	0.69	1.1	1.2	0.9	24.6	16.1	25.8
6/21/2023	3:32:00 PM	395.5	393.4	395.7	52.8	34.9	18.5	50,1	17712.5	17.7	0.68	1.1	1.2	0.9	25.1	15.9	25.7
6/21/2023	3:33:00 PM	394.4	392.2	394.4	52.8	34.7	18.2	50.1	17520.9	17.5	0.68	1	1.2	0.8	24.8	16.1	25.9
6/21/2023	3:34:00 PM	394.3	392.1	394.4	52.2	34.6	18.1	50	17451.1	17.5	0.68	1.1	1.2	0.9	24.9	16	26
6/21/2023	3:35:00 PM	394.6	392.4	394.9	52.3	34.4	18,4	50	17464.4	17.5	0.68	1	1.2	0.8	24,9	15,6	25.6
6/21/2023	3:36:00 PM	393.9	391.6	393.9	52.4	34.4	18.7	50	17518.4	17.5	0.68	1.1	1.2	0.9	25.1	15.6	25.9
6/21/2023	3:37:00 PM	393.4	391.4	393.6	52.6	34.5	18.9	50	17572.9	17.6	0.68	1.1	1.3	0.9	25.6	15.8	26.9
6/21/2023	3:38:00 PM	394.2	392.2	394.4	51.9	34.4	20.5	50	17548.9	17.5	0.68	1.1	1.3	0.9	26.4	15.7	24.5
6/21/2023	3:39:00 PM	393.7	391.7	393.9	52.3	34.6	22	50	17857.0	17.9	0.68	1.1	1.3	0.9	26.8	15.8	24
6/21/2023	3:40:00 PM	396.8	394.9	396.8	53.2	35.2	22.1	50	18225.2	18.2	0.68	1.1	1.3	0.9	27.2	15.5	24
6/21/2023	_	397.9	396.1	398.2	58.8	35.3	22.2	50	18341.0	18.3	0.64	1.1	1.3	0.9	23.1	15.3	23.
6/21/2023	and the second se	399.8	397.9	400	59	35.4	22.1	50	18404.8	18.4	0.64	1.1	1.3	0.9	23.2	15.3	23.
6/21/2023	The second se	398.3	396.4	398.7	59.4	35.3	22.1	50	18336.7	18.3	0.63	1.1	1.3	0.9	23.6	15.3	24.
6/21/2023		400.7	399	401.2	58.9	35.5	22.3	50	18527.7	18.5	0.64	1.1	1.3	0.9	23.1	15.3	24
6/21/2023		400.2	398.6	400.7	58.7	35,4	21.9	50	18381.9	18.4	0.64	1.1	1.3	0.9	23	15.3	24
6/21/2023	and the local division of the local division	399.4	397.9	399.9	58	35.4	21.8	50	18309.5	18.3	0.64	1.1	1.3	0.9	23.4	15.5	24
6/21/2023		399.1	397.4	399.6	57.6	35.3	22	50	18301.7	18.3	0.65	1.1	1.3	0.9	23.6	15.5	24

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6/21/2023	3:48:00	399.7	397.9	400	52	35.3	22.8	50	18491.2	18.5	0.69	1.1	1.3	0.9	26.4	15.3	23.2
6/21/2023	PM 3:49:00	400.6	398.6	400.7	51.9	34	22.8	50	17921.8	17.9	0.68	1.1	1.2	0.9	25.8	15.9	23
	PM				51	32.9	22.8	50	17385.3	17.4	0.67	1.1	1.3	0.9	25.6	16.4	23
6/21/2023	3:50:00 PM	399.9	398	400					91/29121-01	17.4	0.66	1.1	1.2	0.9	26.2	16.5	22.9
6/21/2023	3:51:00 PM	399.8	397.8	400	51.7	33	22.8	50	17390.3		1000	1.1	1.2	0.9	26.9	16.6	22.7
6/21/2023	3:52:00 PM	400.7	398.7	400.7	52.7	33.2	23.2	50	17620.3	17.6	0.66			0.9	29	17.4	23.4
6/21/2023	3:53:00	400.5	398.7	400.4	55.9	31.5	22.9	50	17056.7	17.1	0.63	1.1	1.2			18.3	23.6
6/21/2023	PM 3:54:00	401.3	399.4	401.1	52.2	29.6	22.4	50	16136.2	16.1	0.63	1.1	1.2	0.9	26.1		
6/21/2023	PM 3:55:00	401.7	399.7	401.5	52.2	28.9	22	50	15721.6	15.7	0.62	1.1	1.2	0.9	25.9	18,7	23.9
	PM	402	400.3	401.9	54.4	28.8	22.5	50	15864.0	15.9	0.6	1.1	1.3	0.9	27.2	18.5	23.7
6/21/2023	3:56:00 PM			401.6	54.5	28.9	21.9	50	15650.5	15.7	0.6	1.1	1.2	0.9	27.8	18.7	24.3
6/21/2023	3:57:00 PM	401.6	399.9				22.2	50	15654.5	15.7	0.61	1.1	1.2	0.9	25.8	18.4	24.1
6/21/2023	3:58:00 PM	401.2	399.4	401.1	52.4	28.6				15.6	0.61	1	1.1	0.8	26	18.2	24.2
6/21/2023	3:59:00 PM	401.6	399.B	401.7	52.2	28.5	22	50	15552.2			<u> (</u>	1.2	0.9	26	17.7	24.3
6/21/2023	4:00:00	401.8	400.2	402	54.4	29.7	21.9	50.1	15937.1	15.9	0.6	1.1		0.9	25.9	17.1	24
6/21/2023	PM 4:01:00	402.9	401.2	403	57.1	31.1	21.9	50.1	16484.6	16.5	0.6	1.1	1.2			17.4	24
6/21/2023	PM 4:02:00	403.7	402.1	404	56.1	30.6	21.9	50.1	16315.4	16,3	0.6	1.1	1.2	0.9	25.5		_
6/21/2023	PM 4:03:00	404.5	402.7	404.8	57.1	30.6	21.8	50.1	16358.6	16.4	0.59	1.1	1.2	0.9	26.4	17.2	23.7
	PM 4:04:00	405.1	403.4	405.3	55.7	30.6	21.7	50.1	16332.7	16.3	0.6	1.1	1.1	0.8	27	17.2	23.4
6/21/2023	PM	403.7	402	404	54.8	30.7	21.5	50.1	16228.4	16.2	0.61	1.1	1.1	0.8	26.2	17.3	23.6
6/21/2023	4:05:00 PM			403.8	57.1	31.2	21.4	50.1	16388.5	16.4	0.59	1.1	1.2	0.9	26.7	17	24.1
6/21/2023	4:06:00 PM	403.4	401.7		1000	30.6	21.4	50.1	16121.3	16.1	0.59	1.1	1.1	0.9	25.9	17.3	23.7
6/21/2023	4:07:00 PM	403.4	401,5	403.7	56			50.1	16174.4	16,2	0.59	1.1	1.2	0.9	26.1	17	23.5
6/21/2023	4:08:00 PM	403.3	401.5	403.6	56.1	30,9	21.3			16.2	0.61	1.1	1.2	0.9	25.3	16.4	23.2
6/21/2023	4:09:00	404.7	403	405	54,4	31.5	20.8	50	16202.6				1.2	0.9	25.1	16.2	22.9
6/21/2023	PM 4:10:00	405.7	403.9	405.9	54.1	31.4	20.8	50	16220.6	16.2	0.61	1		0.9	25.9	16.6	23
6/21/2023	PM 4:11:00	406	404.1	406.3	55.4	30.2	20.9	50	15707.1	15.7	0.58	1.1	1.2			16.6	23.1
6/21/2023	PM 4:12:00	406.1	404.4	406.3	54.7	30	20.9	50	15591.4	15.6	0.58	1.1	1.2	0.9	25.8	100	
6/21/2023	PM 4:13:00	405.8	404.1	406.1	55.3	29.9	20.8	50	15532.0	15.5	0.58	1.1	1.2	0.9	26.2	16.7	23
25252	PM 4:14:00	405.2	403.4	405.3	54.8	29.8	20.8	49.9	15460.1	15.5	0.58	1.1	1.1	0.8	25.9	16.7	22.9
6/21/2023	PM	403.7	401.9	404	55.3	28.7	20.2	50	14873.8	14.9	0.56	1	1,1	0.8	26.2	17.1	23.4
6/21/2023	4:15:00	403.7	401.5				1000	1	1000	1.1.2				-	-	-	-



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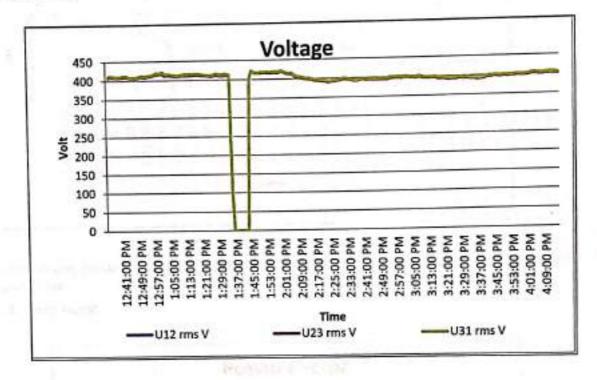
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### 5.2 Variation in Electrical Parameters

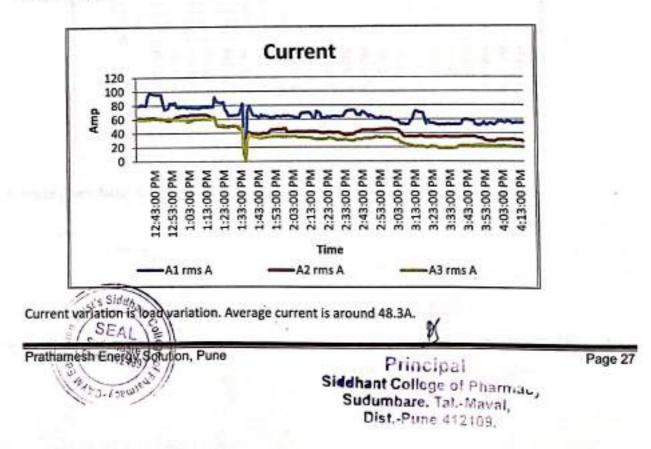
Now we present the variation in various Electrical parameters as under.

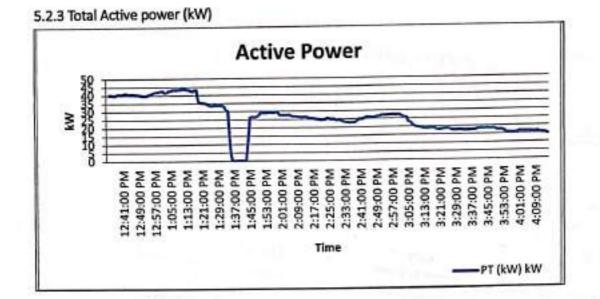
#### 5.2.1 Voltage



Average voltage is around 388 V of transformer.

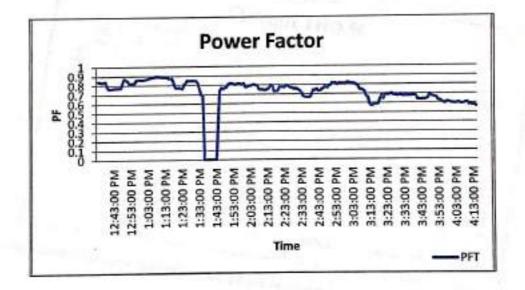
#### 5.2.2 Current



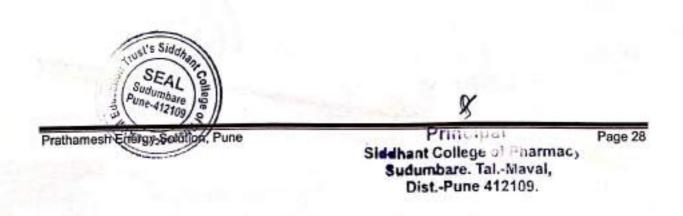


Variation in load demand can be observed in the graph. Average power consumption of the facility is around 26 kW.

5.2.4 Power factor

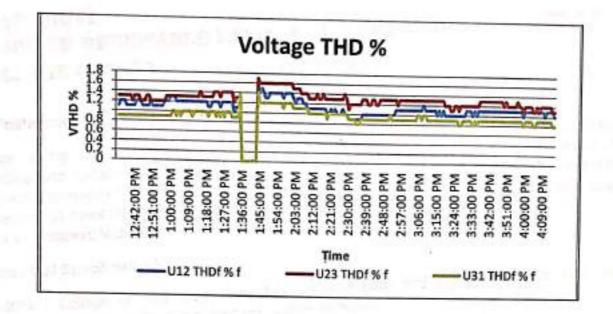


Average power factor is 0.745.



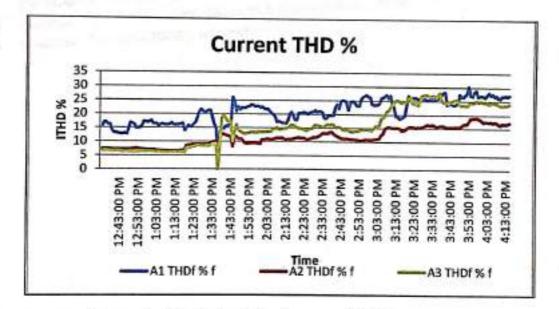
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### 5.2.5 Voltage THD%

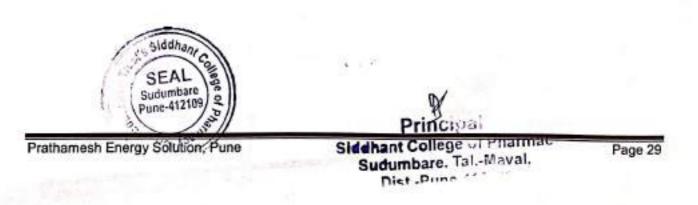


Average voltage harmonic distortion is 1.1 %.

5.2.6 Current THD%



Average current harmonic distortion is 16.2% whereas peak is 25%.



### CHAPTER-VI SCOPE OF RENEWABLE ENERGY AND EFFICIENT FACILITY AT COLLEGE CAMPUS

#### 6.1 Installation of 221 kWp Solar PV Power Plant:

Solar roof top power plant having capacity 221 kWp is installed on Siddhant Pharmacy College building and Siddhant School building, at college campus which meets the requirement of electricity demand of these buildings. The Solar roof top plant is successfully installed and it is in operation to meet the requirement of electricity of institute campus building. The existing solar roof top installed technical specifications and details are given below.

### **Technical Specifications:**

Siddhant College of Pharmacy, Pune has installed solar roof top power plant. The brief specifications and details of the plant are mentioned below.

- System Capacity: 221 kW
- PV Module: Navitas Solar, 325 Wp Polycrystalline 680 nos.
- Output: 5.5 kWh/Sq.m/day (All output is under STC, 25°C)
- Inverter: Growatt- 30kWp-6 Inverters

Sudumbare

Prathamesh Energy Solution, Pune

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Dist.-Pune 412109.

2022-23

Photo-1: 221 kW solar roof top on Siddhant Pharmacy college building roof.

### 6.3. DG sets

Two DG sets, of capacity 125kVA and 100KVA are installed at Siddhant College of Pharmacy, campus Pune as backup for provision of electricity.



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Photo-2: DG set up at Siddhant College of Pharmacy, campus Pune

### 6.4 Solar powered light for hoarding

Lighting solar systems are the fixed installations designed for domestic as well as small scale commercial application. The component of the solar lighting system includes solar PV module (solar cells), charge controller, solar battery and lighting system (lamps & fans). Modules are installed in the open on roof/terrace - exposed to sunlight and the charge controller and battery are kept inside a protected place in the house.

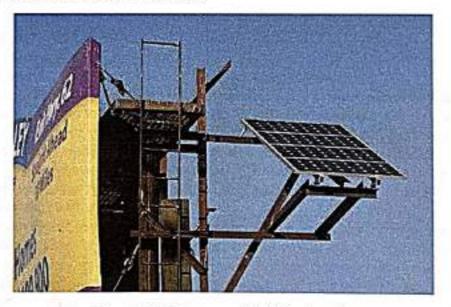


Figure-1: Solar powered light for Hoarding

This system comes with multiple benefits such as:

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- Economical: Since the sun provides energy free of charge, 30% power savings on the electricity bill can be availed with longer back up lighting system at zero running cost.
- Non-Polluting: Powered by the sun's renewable energy, the system is energy neutral and an absolutely clean source of illumination. 1kWp solar installation reduces 1/2 ton of CO2 (carbon dioxide) per annum.
- No Maintenance: The system has few moveable parts reducing the risk of breakage. Once installed, it lasts for long time and requires little attention.

This system can be used to power the huge hoardings in the college campus.

Solar powered hoarding lighting system proposed will provide a better, faster, cheaper (and cleaner) alternative with solar. Since this product competes with diesel or conventional fuels, we needed to ensure we beat the cost of a diesel solution. In order to achieve that with solar, we consider the following system:

1. Highly Efficient Solar Panel

2. Charge Controllers with MPPT Technology - increases solar electricity production by up to 30% compared to conventional charge controllers

3. LED Projection Light - consumes 10-times less electricity compared to conventional bulbs, and has a 50,000 hour warranty.

#### Features:

- > Auto on off
- > 4 Days Battery Back Up
- > Robust housing
- > Weather proof

With this entire put together, we ended up with systems that provide 6 hours of lighting each night with 4 -lamp system to light up boards up to 15'x30', and a 8-lamp system to light larger boards up to 20'x40'. More importantly, with these options, payback of the system will come around 2.5 years. This system provides a way to reduce the lightings costs, get rid of all the operational hassles of owning a diesel generator, plus brand benefits from being "green" with the use of renewable energy like solar powered light hoarding board.

### 6.5 Solar charging stations

Solar cell phone chargers use solar panels to charge cell phone batteries. They are an alternative to conventional electrical cell phone chargers and in some cases can be plugged into an electrical outlet. Solar mobile charger is a device which can charge mobile phones using solar radiation. Its major component is a compact solar panel. This solar panel traps solar energy and produces an output voltage. But, since the light radiations falling on the solar panel can vary, the output voltage becomes unstable. For charging a mobile phone, stable voltage is required. So, to make the output voltage stable and regulated, voltage regulator circuit along with the solar panel is used.

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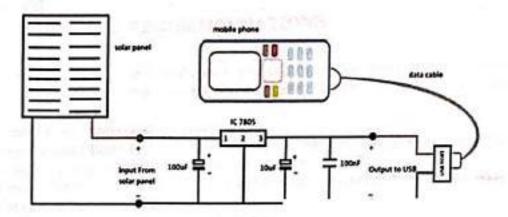
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Most of the mobile phones have computer connectivity via USB cable. USB port establishes 4 connection terminals. The connection terminals at the two extreme ends are the supply terminals. In a female USB connector (port via which we plug in USB devices to computer), these terminals carry 5V DC. When a mobile phone is connected to the USB port of a computer, it utilizes this 5V supply to recharge battery. This feature is used in a solar mobile charger. It converts and regulates solar energy to 5V DC and the output will be available through the female USB connector. To this connector, we can easily connect a mobile phone via data cable.



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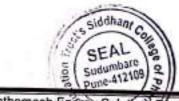
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### Chapter VII SUGGESTIONS AND RECOMMENDATIONS

Following Energy Conservation Opportunities and actions on the basis of energy audit are suggested to implement in the campus on the basis of funds availability and institute preferences.

### Energy Audit: Energy Conservation opportunities:

- Energy efficient tubes and fans can be replaced. Already energy efficient lightings are installed at prominent places like admin office, corridor etc.
- Electrical distribution junction box should be installed properly and proper ambience with safety measures required to be undertaken.
- Installation of Solar powered light for hoarding.
- Installation of 05 Nos. solar mobile phone charging stations in the college campus.
- Water management system must be in place. Overhead tanks can be with float control and Time of the day (TOD) can be implemented for water pumping for filling the overhead water tanks.



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