

## KONARK IDEAL COLLEGE OF SCIENCE & COMMERCE

(Affiliated to University of Mumbai) (Hindi Linguistic Minority College)

CAMPUS: Adarsh Vidya Nagari, At. Wasar (Bhal), Post-Dwarli, Via Kalyan Railway Station, Haji Malang Road, Dist.Thane(MS) 421306. PH.: (0251) 3204294 / 3204394

E-mail: konarkideal@idealcollege.in

Web-www.idealcollege.in

Date: 24.10.2023

## **DVV Clarifications for Metric Level Deviations**

**Metric 7.1.3** 

### **Point-wise Reply:**

Point	DVV Clarifications	Reply
No.		
1	Provide Policy Document on Environment and Energy Usage	Policy Document on Environment and Energy Usage has been provided herewith.
2	Provide Action taken Reports and Achievement Report as Clean and Green Campus Initiatives	Action taken Reports and Achievement Report as Clean and Green Campus Initiatives has been provided herewith.
3	Provide Reports of the Audits Geo tagged photographs with caption and date.  Reports of the Audits along with Certification and Geo tagged photographs with caption and date have been provided herewith.	
4	Provide Any other supporting document for beyond	Photographs with caption towards Beyond Campus Green Initiatives have been provided herewith.

**PRINCIPAL** 



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## **Policy Document on Environment and Energy Usage**



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(alyan (E), Dist.-Thane

### POLICY DOCUMENT ON ENVIRONMENT AND ENERGY USUAGE

The Environment and Energy usage Policy of KONARK IDEAL COLLEGE is to manage energy in such a systematic way so as to minimize its impact on the environment. The policy implies to explore the renewable energy resources to reduce the burden of the government and to find out alternate 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. IDEAL NATURE CLUB is devoted to the cause of 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.
- Turn off your monitor when you leave your table. Whenever possible, shut down rather than logging off.
- > Turn off unnecessary lights and use daylight instead.
- > Use LED or compact fluorescent bulbs as much as possible.
- Switch off lights, fans in conference rooms, classrooms, and lecture halls when they are not in use.
- > Avoid the use of decorative lighting.
- > Use the fans only when they are needed.
- To organise NO VEHICLE DAY timely.
- To reduce local air pollution emission using bicycles, public transportation and use of Pedestrian friendly roads.





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- > To undertake tree plantation drive and Plantation programmes in the Campus
- > 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 which Contribute to environmental protection and for sustainable development.
- To reduce noise levels in the college so as to create a peaceful environment for learning.
- > To train our students and staff to become efficient in matters of energy usage and environment protection.
- To create awareness in the local community about efficient energy usage, environment protection and sustainable development.
- This college policy on ENERGY USAGE AND ENVIRONMENT is available on the College website and is regularly monitored by the Principal.

IQAC Coordinator

WASAR, KALYAN THANE. THANE.

PRINCIPAL

KONARK IDEAL COLLEGE

OF SCIENCE & COMMERCE

Wasar, Kalyan (E), Dist.-Thane



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## **Action taken Reports and Achievement Report as Clean and Green Campus Initiatives**



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### Action taken Report on clean and green campus Initiative

- 1. The Institute had organized Cleanliness Drive in association with the NSS unit of Konark Ideal college of Science and Commerce in different occasions like World Environment Day, Earth Day, Van Mahotsav, no plastic day, paperback distribution campaign, no vehicle Day and before and after the special functions organized in the institute.
- **2.** In Connection with the No plastic day our college had organized a paperback distribution campaign to promote no plastic use.

### 3. To promote Energy conservation and management

- Our college use LED bulbs in the College campus to save energy.
- In each classroom we have put the poster to switch off lights and fans when it is not in use.
- We have well ventilated classrooms, windows are there in each classrooms through which natural sunlight passes it also help use to reduce the use of lights in the classroom.

### 4. Green campus initiatives

- Green Campus initiatives by the institute include Water Conservation, Tree Plantation, Waste Management, and Alternative Energy. With this in mind, Green audit has been conducted by the institute.
- We also conduct time to time audit (Green, Energy and Environment Audit)
- Slogans on Energy Conservation, Water conservation, Conservation of Greenery etc. has been placed by the institute within the campus to aware the students towards energy and greenery conservation.
- Plantation Drives had been organized time to time in and around the campus by the institute in association with Ideal Nature club and NSS Unit. Students and staff members participate in this Plantation Programme with great enthusiasm.



KONARKIDEAL COLLEGE OF SCIENCE Wasar

### 5. Waste management

- We Practice the 4 R's Reduce, Reuse, recycle and refuse wherever possible
- Sanitary Napkin Incinerator is installed used for sanitization.
- We Follow Eco friendly practices in daily activities and programs, we organized various activity which support our environment and help us for maintain our campus Eco-Friendly
- We prefer using Eco-Friendly Bags and we also use eco-friendly materials for decoration, packing gifts and others.
- Reduce usage of paper by encouraging techno-centric teaching and administrative model.
- We have compost pit of 2\*2 each for both dry and wet waste used as minimum after 15 days.
- Percolation tank of 10\*10 for rain water harvesting wherein the water percolate into the ground water table.

### 6. Water Conservation and Management

- We create awareness that small actions matter by putting up Save Water labels
  /posters are put up in various places in the College, in washrooms, near the
  water cooler.
- Various activities are organized by Ideal nature club essay writing, speech
  completions on save water, save environment. Poster making competition and
  rallies are organized to spread awareness, other activies are also performed
  such as swachh bharat abhiyan, van mahosav, tree plantation campaign,
  awareness rally's, paper bag distribution campaign, meri matti mera desh,
  and so many other activates are performed.
- Rain water harvesting from the terrace area of the college building is being drained into the municipal storm water system through requisite ducts and pipes. To store the rain water we practice these activities.



KONARK IDEAL COLLEGE OF SCIENCE & COMMERCE Wasar, Kalyan (E), Dist-Thane



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## REPORT ON SWACHH BHARAT ABHIYAN

On 1st October of every year college had conducted a Campaign to clean our College ground & surrounding areas by supporting the Prime Minister's "Swatch Bharat Abhiyan" we got a good co-operation from our Management, Teaching and Non-Teaching staff and specially the students of our college.

"Because our Konark Ideal College culture believes that lean, hygienic and healthy environments lead to enhance the concentration level and thus generate more power to get success."

This was one of the Initiatives taken by our College in the way of contributing our

Konark Ideal College is an Institution which aims to develop the rowing minds in a more Efficient Manner as well as develop sense of Social Belongingness among the student's and faculties. Mr. Prasad Deshmukh Asst.Professor, Unnati Choudhary. 63 students were joined the program, From Degree College. The event was organised by Ideal Nature Club. There were 12 NSS volunteer take inactive and conducted this program.

Incharge.

Asst. Prof. Unnati Choudhary



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### REPORT ON VAN MAHAUTSAV

Every man needs the oxygen for their life and Trees are the foremost source of oxygen as well trees help to reduce the level of co2. As we all know that the whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important today's aspects.

The Ideal Nature Club of Konark Is Ideal College of Science and Commerce organized "Tree Plantation Drive" programme every year 7th July. It was attended by Our Principal Dr. Shirin Gonzalvez , students, college Teaching and nonteaching staffs.

Under the Guidance of Asst. Prof. prasad Deshmukh. There was a seminar on importance of trees 177 students attended the seminar. 23 students were participated in the rally. In the really we showcase the importance of trees. Students also made amazing posters and carry them in the rally.

Incharge,

Prasad Deshmukh





## Konark ideal college of science & commerce

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### REPORT ON AIDS AWARNESS RALLY

Ideal nature club of Konark Ideal college of science and commerce took out a rally every year to create awareness among the public on the fighting the HIV and AIDS, drug abuse and voluntary blood donation on World AIDS Day.

The rally started around 10.30 am College students and staff used handmade posters, slogans and flex to make the public aware. There ware total 47 students participated in the rally. NSS volunteers actively participated in the rally.

The rally started from konark ideal college and covered nandivali village and malang road. It spread awareness about AIDS to public. Under the guidelines of Asst. Professor Mr Prem Murhari.

Incharge,

Asst. Prof. Prem Murhari







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## REPORT ON WORLD ENVIRONMENT DAY

Every man needs the oxygen for their life and Trees are the foremost source of oxygen as well trees help to reduce the level of co2. As we all know that the whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important today's aspects.

The Ideal Nature Club of Konark Ideal College of Science and Commerce organized "Tree Plantation" programme " on the occasion of World Environment day on 5th June, every year . It was attended by Our Principal Dr. Shirin Gonsalvez, students, college staff and 10 NSS volunteers.

Under the Guidance of Asst. Prof. prasad Deshmukh volunteers planted more than 16 plants every year in the divider of the street. Each student took the responsibility to nourish and maintain the allocated plant.

Incharge,

Prasad Deshmukh



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## **Reports of the Audits and Certificate**



Ref: SCPL-CE-905-070922 Date: September 07, 2022

## **Certificate**

This is to certify that Green Audit was carried out at Konark Ideal College of Science & Commerce, Adarsh Vidya Nagari, At. Wasar (Bhal), Post - Dwarli, Via Kalyan Railway Station, Shri. Haji Malangad Road, Kalyan - 421306 during the month of September 2022 for Academic Year 2022-2023.

The scope, coverage, findings and recommendations are submitted vide our report SCPL-PR-905-070922 dated September 07, 2022.

For SENERGY CONSULTANTS PVT LTD

Tushar Kamble

(Project coordinator)

Page 1 of 3

Helping You to Conserve Energy



Ref: SCPL-CE-905-070922 Date: September 07, 2022

## **Certificate**

This is to certify that Energy Audit was carried out at Konark Ideal College of Science & Commerce, Adarsh Vidya Nagari, At. Wasar (Bhal), Post - Dwarli, Via Kalyan Railway Station, Shri. Haji Malangad Road, Kalyan - 421306 during the month of September 2022 for Academic Year 2022-2023.

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For **SENERGY CONSULTANTS PVT LTD** 

Tushar Kamble

(Project coordinator)

Page 2 of 3

Helping You to Conserve Energy



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For **SENERGY CONSULTANTS PVT LTD** 

**Tushar Kamble** 

(Project coordinator)

Page 3 of 3

Helping You to Conserve Energy



Ref: SCPL-CE-905-150921 Date: September 15, 2021

## **Certificate**

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For SENERGY CONSULTANTS PVT LTD

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(Project coordinator)

Page 3 of 3

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Ref: SCPL-CE-905-200923 Date: September 20, 2023

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Page 3 of 3

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## Report

On

## **GREEN, ENERGY & ENVIRONMENT AUDIT**

For

Academic Year 2022-2023

of

## **Konark Ideal College of Science and Commerce Kalyan**

Prepared

By

## Senergy Consultants Pvt Ltd Mumbai

September - 2022

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 1 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## **Contents**

Sr. No	Description	Page
I	Introduction	3
II	Executive Summary	
III	Electrical Gadgets	6
IV	Environmental System	8
V	Water Management	10
VI	Waste Generation & Management	
VII	Infrastructure & Safety	
VIII	Green Culture	16
IX	Renewable Energy	17

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## I Introduction

Green & Energy Audit was undertaken at Konark Ideal College of Science & Commerce, Adarsh Vidya Nagari, At. Wasar (Bhal), Post - Dwarli, Via Kalyan Railway Station, Shri. Haji Malangad Road, Kalyan - 421306, During the month of September 2022.

The organization is very keen to promote green culture wherever possible, as a commitment towards better environment and conservation of energy. A lot of efforts have already been put up to bring down the carbon footprint. To further optimize consumption and identify saving opportunities, M/s Senergy Consultants was assigned to carry out Green & Energy Audit of the premises.

This Audit Report presents the analysis of the data collected, observations made at the facility and is governed by the objectives, scope of work, methodology etc. discussed in the ensuing paragraphs.

#### Team:

The team members of the audit study.

- Mr Ravindra Datar
- Mr Nitesh Kharche

#### **Acknowledgment:**

We wish to express our gratitude towards Dr. Gonsalvez Shirin Thomas (Principal) for having given us the opportunity for conducting the study and the support provided during the study.

We are thankful to Dr. Tiwari Sanjay (Registrar) for extending necessary help and co-operation from their side.

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# II Executive Summary

The premises were evaluated against the various criterions laid down by the National Assessment and Accreditation Council (NAAC). The major observations are.

### Air Quality & Ventilation:

- The classrooms and other areas are well ventilated to ensure proper air quality.
- The fans are appropriately installed to ensure proper air circulation.
- Indoor as well as outdoor plants have also been provided to improve the environment.
- The air conditioned rooms are provided with proper ventilation and fresh air.

### **Lighting System:**

- The usage of natural light is optimized through well designed structures and windows.
- Most of the light fitting are provided with high efficiency LED lamps. The remaining lamps are being replaced with LED lamps.
- It is suggested to automate the switching of lamps in the common areas and rest rooms with sensor based control.

### **Green Campus Initiative:**

- The movement of vehicles inside the campus is allowed for the students as well as staff to enter the campus with designated parking area.
- Pedestrian friendly pathways have been constructed for easy movement inside the campus.
- There is a ban on plastic usage inside the campus.
- The campus is surrounded by a lot of greenery, trees, and proper landscaping.

### **Environment & Energy Initiative:**

- Green & Environment based seminars were organized within the college campus. Staff members have been participating in various research programs based on Environment & Green Energy.
- The college has formed internal committees and student groups / clubs for promoting environmental and conservation activities.
- Various Tree Plantation programs have been carried out within and outside the campus.

#### **Water Quality & Conservation:**

- The water is supplied by the Municipal Corporation, which is a common practice in and around Mumbai, Thane & Navi Mumbai
- Water purifiers & coolers are provided on individual floors and convenient locations.
- The distribution network and piping are satisfactory and adequate.

### **Waste Management:**

- The effluent water is discharged in the municipal drain, which is a common practice in and around Mumbai, Thane & Navi Mumbai.
- The organic waste is segregated and disposed through the municipal system, which may be converted into manure by installing composting pits / waste collector machine.
- The electronic gadgets / waste is either donated if useful or handed over to appropriate waste collectors.

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#### SENERGY CONSULTANTS PVT LTD

Ref: SCPL-PR-905-070922 Date: September 07, 2022

#### Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

• General solid waste is disposed through municipal corporation.

### Infrastructure usage:

- Ramps are provided on the ground floor to address the needs of differently abled persons.
- The on-campus movement is distributed with multiple entrances as well as staircases.
- The fire extinguishers are provided at key areas.
- The draining system for washrooms is efficient and effective.
- There were no seepages observed in the building premises.

### **Green IT culture:**

- Energy efficient computers and laptops have been procured.
- Electronic communication is encouraged to minimize usage of papers.
- Most of the papers are reused for double sided printing to further minimize usage of paper.

### **Renewable Energy:**

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- The possibility of installing Solar Photovoltaic System with NET metering may be assessed to meet part of the electricity consumption.
- The quantity of plate waste (organic waste with higher starch contents) is negligible, consequently, there is no potential for biogas generation.

Page 5 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## III Electrical Gadget

### **Gadget List**

### **Light Fittings:**

Location	LED Lamps	Tube Lights		
Ground Floor				
Admin office and Principal Room	5	0		
Staff room	2	0		
First Fl	First Floor			
Classroom 101	2	0		
Classroom 102	2	0		
Classroom 103	2	0		
Classroom 104	2	2		
Classroom 105	2	0		
Second	Floor			
Classroom 202	2	0		
Classroom 203	2	0		
Fitter Electronic Room	2	0		
Hall	2	2		
Toilet G/L	2	2		
Admin Building				
Second Floor				
Computer Lab	4	0		
Science Lab	4	0		
Server Room	1	0		
Classroom 202	8	0		
Classroom 4	4	0		
Classroom 3	8	0		
Classroom 2	7	3		
Corridor	3	0		

### **Ceiling Fans:**

Location	<b>Ceiling Fans</b>		
Ground Floor			
Admin office and Principal Room	4		
Staff room	4		
First Floor			
Classroom 101	4		
Classroom 102	4		
Classroom 103	4		
Classroom 104	4		
Classroom 105	4		

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#### Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

Location	<b>Ceiling Fans</b>		
Second Floor			
Laboratory	6		
Classroom 202	6		
Classroom 203	4		
Fitter Electronic Room	4		
Hall	4		
Toilet G/L	6		
Admin Building			
Second Floor			
Computer Lab	4		
Science Lab	4		
Server Room	1		
Classroom 202	6		
Classroom 4	4		
Classroom 3	4		
Classroom 2	7		

### **Air Conditioning Units:**

Location	Туре	Capacity	Quantity
Admin office and Principal Room	Split	1.5 Ton	1
V.P Room	Split	1.5 Ton	1

### **Observations & Suggestions:**

- Most of the light fitting are provided with high efficiency LED lamps. The remaining lamps are being replaced with LED lamps.
- The fans are of standard efficiency, which may be replaced with high efficiency fans with BLDC motor.
- The air conditioning Units have 3 star ratings, which are intrinsically operate at high energy efficiency.
- The Air Conditioners are operated as required with manual control. The operation is minimal consequently automation may not be economical.
- The temperature is maintained at 24 to 25 °C for air conditioning spaces, which is within the recommended values.
- The rooms are well ventilated and provided with fans at appropriate location for proper air circulation.
- The gadgets are services properly and maintained in good condition.

### **Electricity Bill:**

• The power cost is within the normal range.

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# IV **Environmental System**

### **Ventilation & Air Quality:**

- The air ventilation is adequate.
- Several indoor & outdoor plants have been installed to improve air quality.









- Natural light is been used for maximum illumination during daytime.
- It has been a general practice to switch off the fans & lights in an occupied area.

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Ref: SCPL-PR-905-070922 Date: September 07, 2022

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce





**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 9 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## V Water Management

### **Water Source:**

The water supplied by the municipal corporation is used for drinking & other requirements. The incoming water from the municipal corporation is metered.



The water consumption is generally within the norms.

### **Water Coolers & Purifiers:**



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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 10 of 17

#### **SENERGY CONSULTANTS PVT LTD**

Ref: SCPL-PR-905-070922 Date: September 07, 2022

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

The water purifiers and coolers are provided at on individual floors, the details are as under.

Sr No	Location	Quantity
1	Ground Floor	1
2	First Floor	1
3	Second Floor	1

### **Water Distribution System:**

The distribution network and piping are more or less satisfactory and adequate.

### **Rainwater Harvesting:**

The rainwater from the terrace area of the college building is being drained into municipal storm water system through requisite ducts and pipes.

However, considering proximity to the seashore, rainwater harvesting may not be practical.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 11 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# VI Waste Generation & Management

### Sewage & Wastewater:

The sewage is fed into the municipal drainage. This is a common practice and the municipal corporation which charges cess towards the sewage charges.

### **Solid Waste:**

- The waste is segregated and disposed through municipal disposal system.
- The dustbins for Recyclable waste and Non-Recyclable Waste have been provided at appropriate locations.
- The organic waste is segregated and disposed through municipal waste management system.
- The electronic gadgets with residual life may be donated while the electronic waste is properly segregated and handed over to appropriate scrap collector.



**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 12 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# VII Infrastructure & Safety

### Movement on-campus (Distributed / non-distributed leading to crowds)

- The premises are provided with multiple staircases with necessary entrances to ensure quick and effective movement in normal as well as emergency conditions.
- The movement of vehicle inside the campus is allowed for the students as well as staff to enter the campus with designated parking area.



- There is complete ban plastic usage inside the campus.
- Ramps are provided on the ground floor to address the needs of differently abled persons.





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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 13 of 17

### **SENERGY CONSULTANTS PVT LTD**

Ref: SCPL-PR-905-070922 Date: September 07, 2022

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce



### Parking space:



There is adequate parking space for vehicles. However, almost all the students and many of the faculty members avail public transport system which is very convenient due to proximity to railway station and bus services.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 14 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

### Firefighting & fire escape system:



There are efficient fire extinguishers in the premises, which are checked / refilled as per the stipulated frequency.

Sr No	Location	Quantity
1	Ground Floor	1
2	First Floor	1
3	Second Floor	1

The premise is provided with multiple staircases with requisite entrances to ensure quick and effective movement in emergency conditions.

### **Draining system:**

The drains from the washrooms are connected to the municipal drainage, which is a common practice in the colleges in and around Mumbai, Thane & Navi Mumbai.

The municipal corporation charges cess for water disposal.

### Seepage in the building:

The premise was visually inspected for seepages.

No seepages were observed in any of the places.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 15 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## VIII Green Culture



#### **Computers/Laptops:**

- 1. The LED / LCD monitors & Laptops has been procured, which are energy efficient.
- 2. These monitors are not only energy efficient but also generate minimal heat and cut down on air conditioning load.

The following steps may be initiated to further enhance efficiency of the systems.

- 1. An efficient power management system may be incorporated to
  - a. Switch off the display if not in use.
  - b. Put the computer in Sleep mode / switching off the machines, if not used for prolonged period.
- 2. Optimize brightness of the screen.
- 3. Discourage use of screen savers, which has similar power consumption.

#### **Paper-less communication:**

The major internal as well as external communication is through electronic medium.

#### Re-using one sided paper for printing:

It was observed that two side printing / printing on the back side of used paper in more than 80% of the cases.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 16 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## IX Renewable Energy

#### **Solar Photovoltaic:**

It is suggested to install rooftop solar panels with net metering for captive usage.

#### **Solar Thermal:**

There is no application of solar thermal system and does not find attractive in this case.

#### **Biogas Plant:**

There is no possibility of installing biogas plant for cooking as the quantity of plate waste is negligible.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 17 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

### Report

On

## **GREEN, ENERGY & ENVIRONMENT AUDIT**

For

Academic Year 2021-2022

of

## **Konark Ideal College of Science and Commerce Kalyan**

Prepared

By

## Senergy Consultants Pvt Ltd Mumbai

September - 2021

Helping You to Conserve Energy

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 1 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

### **Contents**

Sr. No	Description	Page
I	Introduction	3
II	Executive Summary	4
III	Electrical Gadgets	6
IV	Environmental System	8
V	Water Management	10
VI	Waste Generation & Management	12
VII	Infrastructure & Safety	13
VIII	Green Culture	16
IX	Renewable Energy	17

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 2 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## I Introduction

Green & Energy Audit was undertaken at Konark Ideal College of Science & Commerce, Adarsh Vidya Nagari, At. Wasar (Bhal), Post - Dwarli, Via Kalyan Railway Station, Shri. Haji Malangad Road, Kalyan - 421306, During the month of September 2021.

The organization is very keen to promote green culture wherever possible, as a commitment towards better environment and conservation of energy. A lot of efforts have already been put up to bring down the carbon footprint. To further optimize consumption and identify saving opportunities, M/s Senergy Consultants was assigned to carry out Green & Energy Audit of the premises.

This Audit Report presents the analysis of the data collected, observations made at the facility and is governed by the objectives, scope of work, methodology etc. discussed in the ensuing paragraphs.

#### Team:

The team members of the audit study.

- Mr Ravindra Datar
- Mr Nitesh Kharche

#### **Acknowledgment:**

We wish to express our gratitude towards Dr. Gonsalvez Shirin Thomas (Principal) for having given us the opportunity for conducting the study and the support provided during the study.

We are thankful to Dr. Tiwari Sanjay (Registrar) for extending necessary help and co-operation from their side.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 3 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# II Executive Summary

The premises were evaluated against the various criterions laid down by the National Assessment and Accreditation Council (NAAC). The major observations are.

#### Air Quality & Ventilation:

- The classrooms and other areas are well ventilated to ensure proper air quality.
- The fans are appropriately installed to ensure proper air circulation.
- Indoor as well as outdoor plants have also been provided to improve the environment.
- The air conditioned rooms are provided with proper ventilation and fresh air.

#### **Lighting System:**

- The usage of natural light is optimized through well designed structures and windows.
- Many of the lamps are replaced with LED; the rest may be replaced as early as possible.
- It is suggested to automate the switching of lamps in the common areas and rest rooms with sensor based control.

#### **Green Campus Initiative:**

- The movement of vehicles inside the campus is allowed for the students as well as staff to enter the campus with designated parking area.
- Pedestrian friendly pathways have been constructed for easy movement inside the campus.
- There is a ban on plastic usage inside the campus.
- The campus is surrounded by a lot of greenery, trees, and proper landscaping.

#### **Environment & Energy Initiative:**

- Green & Environment based seminars were organized within the college campus. Staff members have been participating in various research programs based on Environment & Green Energy.
- The college has formed internal committees and student groups / clubs for promoting environmental and conservation activities.

#### **Water Quality & Conservation:**

- The water is supplied by the Municipal Corporation, which is a common practice in and around Mumbai, Thane & Navi Mumbai.
- Water purifiers & coolers are provided on individual floors and convenient locations.
- The distribution network and piping are satisfactory and adequate.

#### **Waste Management:**

- The effluent water is discharged in the municipal drain, which is a common practice in and around Mumbai, Thane & Navi Mumbai.
- The organic waste is segregated and disposed through the municipal system, which may be converted into manure by installing composting pits / waste collector machine.
- The electronic gadgets / waste is either donated if useful or handed over to appropriate waste collectors.
- General solid waste is disposed through municipal corporation.

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 4 of 17

#### SENERGY CONSULTANTS PVT LTD

Ref: SCPL-PR-905-150921 Date: September 15, 2021

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

#### Infrastructure usage:

- Ramps are provided on the ground floor to address the needs of differently abled persons.
- The on-campus movement is distributed with multiple entrances as well as staircases.
- The fire extinguishers are provided at key areas.
- The draining system for washrooms is efficient and effective.
- There were no seepages observed in the building premises.

#### **Green IT culture:**

- Energy efficient computers and laptops have been procured.
- Electronic communication is encouraged to minimize usage of papers.
- Most of the papers are reused for double sided printing to further minimize usage of paper.

#### **Renewable Energy:**

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- The possibility of installing Solar Photovoltaic System with NET metering may be assessed to meet part of the electricity consumption.
- The quantity of plate waste (organic waste with higher starch contents) is negligible, consequently, there is no potential for biogas generation.

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## II Electrical Gadget

#### **Gadget List**

#### **Light Fittings:**

Location	LED Lamps	Tube Lights		
Ground Floor				
Admin office and Principal Room	2	3		
Staff room	2	0		
First F	oor			
Classroom 101	2	0		
Classroom 102	2	0		
Classroom 103	2	0		
Classroom 104	2	2		
Classroom 105	2	0		
Second Floor				
Classroom 202	2	0		
Classroom 203	2	0		
Fitter Electronic Room	2	0		
Hall	2	2		
Toilet G/L	2	2		
Admin Building				
Second	Floor			
Computer Lab	4	0		
Science Lab	4	0		
Server Room	1	0		
Classroom 202	5	3		
Classroom 4	4	0		
Classroom 3	5	3		
Classroom 2	4	6		
Corridor	3	0		

#### **Ceiling Fans:**

Location	<b>Ceiling Fans</b>		
Ground Floor			
Admin office and Principal Room	4		
Staff room	4		
First Floor			
Classroom 101	4		
Classroom 102	4		
Classroom 103	4		
Classroom 104	4		
Classroom 105	4		

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 6 of 17

#### Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

Location	<b>Ceiling Fans</b>	
Second Floor		
Laboratory	6	
Classroom 202	6	
Classroom 203	4	
Fitter Electronic Room	4	
Hall	4	
Toilet G/L	6	
Admin Building		
Second Floor		
Computer Lab	4	
Science Lab	4	
Server Room	1	
Classroom 202	6	
Classroom 4	4	
Classroom 3	4	
Classroom 2	7	

#### **Air Conditioning Units:**

Location	Туре	Capacity	Quantity
Admin office and Principal Room	Split	1.5 Ton	1
V.P Room	Split	1.5 Ton	1

#### **Observations & Suggestions:**

- Many of the lamps are replaced with LED; the rest may be replaced as early as possible.
- The fans are of standard efficiency, which may be replaced with high efficiency fans with BLDC motor.
- The air conditioning Units have 3 star ratings, which are intrinsically operate at high energy efficiency.
- The Air Conditioners are operated as required with manual control. The operation is minimal consequently automation may not be economical.
- The temperature is maintained at 24 to 25 °C for air conditioning spaces, which is within the recommended values.
- The rooms are well ventilated and provided with fans at appropriate location for proper air circulation.
- The gadgets are services properly and maintained in good condition.

#### **Electricity Bill:**

• The power cost is within the normal range.

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 7 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# IV **Environmental System**

#### **Ventilation & Air Quality:**

- The air ventilation is adequate.
- Several indoor & outdoor plants have been installed to improve air quality.







- Natural light is been used for maximum illumination during daytime.
- It has been a general practice to switch off the fans & lights in an occupied area.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 8 of 17

#### **SENERGY CONSULTANTS PVT LTD**

Ref: SCPL-PR-905-150921 Date: September 15, 2021

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce





**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 9 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## V Water Management

#### **Water Source:**

The water supplied by the municipal corporation is used for drinking & other requirements. The incoming water from the municipal corporation is metered.



The water consumption is generally within the norms.

#### **Water Coolers & Purifiers:**



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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 10 of 17

#### **SENERGY CONSULTANTS PVT LTD**

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Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

The water purifiers and coolers are provided at on individual floors, the details are as under.

Sr No	Location	Quantity
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#### **Water Distribution System:**

The distribution network and piping are more or less satisfactory and adequate.

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The rainwater from the terrace area of the college building is being drained into the municipal storm water system through requisite ducts and pipes.

However, considering proximity to the seashore, rainwater harvesting may not be practical.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 11 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# VI Waste Generation & Management

#### Sewage & Wastewater:

The sewage is fed into the municipal drainage. This is a common practice and the municipal corporation which charges cess towards the sewage charges.

#### **Solid Waste:**

- The waste is segregated and disposed through municipal disposal system.
- The dustbins for Recyclable waste and Non-Recyclable Waste have been provided at appropriate locations.
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- The electronic gadgets with residual life may be donated while the electronic waste is properly segregated and handed over to appropriate scrap collector.



**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 12 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

# VII Infrastructure & Safety

#### Movement on-campus (Distributed / non-distributed leading to crowds)

- The premises are provided with multiple staircases with necessary entrances to ensure quick and effective movement in normal as well as emergency conditions.
- The movement of vehicle inside the campus is allowed for the students as well as staff to enter the campus with designated parking area.



- There is complete ban plastic usage inside the campus.
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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 13 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce





#### Parking space:



There is adequate parking space for vehicles. However, almost all the students and many of the faculty members avail public transport system which is very convenient due to proximity to railway station and bus services.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 14 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

#### Firefighting & fire escape system:



There are efficient fire extinguishers in the premises, which are checked / refilled as per the stipulated frequency.

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The premise is provided with multiple staircases with requisite entrances to ensure quick and effective movement in emergency conditions.

#### **Draining system:**

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The municipal corporation charges cess for water disposal.

#### Seepage in the building:

The premise was visually inspected for seepages.

No seepages were observed in any of the places.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 15 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## VIII Green Culture



#### **Computers/Laptops:**

- 1. The LED / LCD monitors & Laptops has been procured, which are energy efficient.
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The following steps may be initiated to further enhance efficiency of the systems.

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 16 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## IX Renewable Energy

#### **Solar Photovoltaic:**

It is suggested to install rooftop solar panels with net metering for captive usage.

#### **Solar Thermal:**

There is no application of solar thermal system and does not find attractive in this case.

#### **Biogas Plant:**

There is no possibility of installing biogas plant for cooking as the quantity of plate waste is negligible.

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 17 of 17

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

### Report

On

## **GREEN, ENERGY & ENVIRONMENT AUDIT**

For

Academic Year 2023-2024

of

## **Konark Ideal College of Science and Commerce Kalyan**

Prepared

By

## Senergy Consultants Pvt Ltd Mumbai

September-2023

Helping You to Conserve Energy

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 1 of 22

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

### **Contents**

Sr. No	Description	Page
I	Introduction	3
II	Executive Summary	4
III	Electrical Gadgets	6
IV	Environmental System	9
V	Water Management	11
VI	Waste Generation & Management	13
VII	Infrastructure & Safety	14
VIII	Green Culture	18
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 Email: scpl@senergy.co.in
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 Page 2 of 22

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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 3 of 22

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

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- There is a ban on plastic usage inside the campus.
- The campus is surrounded by a lot of greenery, trees, and proper landscaping.

#### **Environment & Energy Initiative:**

- The college has formed internal committees and student groups / clubs for promoting environmental and conservation activities.
- Tree Plantation & Paper bag distribution drive was undertaken by students and staff members.
- Swatch Bharat campus cleaning environmental activity was organized by the college.

#### **Water Quality & Conservation:**

- The water is supplied by the Municipal Corporation, which is a common practice in and around Mumbai, Thane & Navi Mumbai.
- Water purifiers & coolers are provided on individual floors and convenient locations.
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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 4 of 22

#### SENERGY CONSULTANTS PVT LTD

Ref: SCPL-PR-905-200923 Date: September 20, 2023

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

#### Infrastructure usage:

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Helping You to Conserve Energy

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

## III Electrical Gadget

#### **Gadget List**

#### **Light Fittings:**

Location	LED Lamps	
Ground Floor		
Admin office and Principal Room	5	
Staff room	2	
First Floor		
Classroom 101	2	
Classroom 102	2	
Classroom 103	2	
Classroom 104	4	
Classroom 105	2	
Second Floor		
Classroom 202	2	
Classroom 203	2	
Fitter Electronic Room	2	
Hall	4	
Toilet G/L	4	
Admin Building		
Second Floor		
Computer Lab	4	
Science Lab	4	
Server Room	1	
Classroom 202	8	
Classroom 4	4	
Classroom 3	8	
Classroom 2	10	
Corridor	3	

#### **Ceiling Fans:**

Location	<b>Ceiling Fans</b>		
Ground Floor			
Admin office and Principal Room	4		
Staff room	4		
First Floor			
Classroom 101	4		
Classroom 102	4		
Classroom 103	4		
Classroom 104	4		

**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 6 of 22

#### Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

Location	Ceiling Fans	
Classroom 105	4	
Second Flo	or	
Laboratory	6	
Classroom 202	6	
Classroom 203	4	
Fitter Electronic Room	4	
Hall	4	
Toilet G/L	6	
Admin Building		
Second Floor		
Computer Lab	4	
Science Lab	4	
Server Room	1	
Classroom 202	6	
Classroom 4	4	
Classroom 3	4	
Classroom 2	7	

#### **Air Conditioning Units:**

Location	Туре	Capacity	Quantity
Admin office and Principal Room	Split	1.5 Ton	1
V.P Room	Split	1.5 Ton	1

#### **Observations & Suggestions:**

- Almost all the lamps are replaced with energy efficient LED lamps.
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**Email:** <u>scpl@senergy.co.in</u> **Phone:** 022 2555 3297 **Page** 7 of 22

#### **SENERGY CONSULTANTS PVT LTD**

Ref: SCPL-PR-905-200923 Date: September 20, 2023

Green, Energy & Environment Audit Report Konark Ideal College of Science and Commerce

#### **Electricity Bill:**

Consumer Name: Konark Ideal College of science & Commerce				Consumer No. 020190024815				
Tariff Category: 73/LT-V	'II 0-20KW	Maharashtra State Electricity Distribution Co. Ltd.						
Meter No.: 07603260698								
Description	Unit	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Average
Energy Consumption	KWH	3564	3564	3564	3564	3564	3564	3564
Bill	Rs	29320	29320	29319.55	30563	35628	30563	30785
Cost	Rs/KWH	8.23	8.23	8.23	8.58	10.00	8.58	8.64

#### **Observations:**

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• The power cost is within the normal range.

Page 8 of 22

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# IV **Environmental System**

#### **Ventilation & Air Quality:**

- The air ventilation is adequate.
- Several indoor & outdoor plants have been installed to improve air quality.







Natural light is been used for maximum illumination during daytime.

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• It has been a general practice to switch off the fans & lights in an occupied area.





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## V Water Management

#### **Water Source:**

The water supplied by the municipal corporation is used for drinking & other requirements. The incoming water from the municipal corporation is metered.



The water consumption is generally within the norms.

#### **Water Coolers & Purifiers:**

The water purifiers and coolers are provided at on individual floors, the details are as under.

Sr No	Location	Quantity		
1	Ground Floor	1		
2	First Floor	1		
3	Second Floor	1		

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#### **Water Distribution System:**

The distribution network and piping are more or less satisfactory and adequate.

#### **Rainwater Harvesting:**

The rainwater from the terrace area of the college building is being drained into municipal storm water system through requisite ducts and pipes.

However, considering proximity to the seashore, rainwater harvesting may not be practical.

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# VI Waste Generation & Management

#### Sewage & Wastewater:

The sewage is fed into the municipal drainage. This is a common practice and the municipal corporation which charges cess towards the sewage charges.

#### **Solid Waste:**

- The waste is segregated and disposed through municipal disposal system.
- The dustbins for Recyclable waste and Non-Recyclable Waste have been provided at appropriate locations.
- The organic waste is segregated and disposed through municipal waste management system.
- The electronic gadgets with residual life may be donated while the electronic waste is properly segregated and handed over to appropriate scrap collector.





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# VII Infrastructure & Safety

#### Movement on-campus (Distributed / non-distributed leading to crowds)

- The premises are provided with multiple staircases with necessary entrances to ensure quick and effective movement in normal as well as emergency conditions.
- The movement of vehicle inside the campus is allowed for the students as well as staff to enter the campus with designated parking area.





- There is complete ban plastic usage inside the campus.
- Ramps are provided on the ground floor to address the needs of differently abled persons.

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#### Parking space:



There is adequate parking space for vehicles/four wheelers. However, almost all the students and many of the faculty members avail public transport system which is very convenient due to proximity to railway station and bus services.

#### Firefighting & fire escape system:



There are efficient fire extinguishers in the premises, which are checked / refilled as per the stipulated frequency.

Sr No	Location	Quantity		
1	Ground Floor	1		
2	First Floor	1		
3	Second Floor	1		

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#### **SENERGY CONSULTANTS PVT LTD**

Ref: SCPL-PR-905-200923 Date: September 20, 2023

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The premise is provided with multiple staircases with requisite entrances to ensure quick and effective movement in emergency conditions.

#### **Draining system:**

The drains from the washrooms are connected to the municipal drainage, which is a common practice in the colleges in and around Mumbai, Thane & Navi Mumbai.

The municipal corporation charges cess for water disposal.

#### Seepage in the building:

The premise was visually inspected for seepages.

No seepages were observed in any of the places.

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## VIII Green Culture



#### **Computers/Laptops:**

- 1. The LED / LCD monitors & Laptops has been procured, which are energy efficient.
- 2. These monitors are not only energy efficient but also generate minimal heat and cut down on air conditioning load.

The following steps may be initiated to further enhance efficiency of the systems.

- 1. An efficient power management system may be incorporated to
  - a. Switch off the display if not in use.
  - b. Put the computer in Sleep mode / switching off the machines, if not used for prolonged period.
- 2. Optimize brightness of the screen.
- 3. Discourage use of screen savers, which has similar power consumption.

#### **Paper-less communication:**

The major internal as well as external communication is through electronic medium.

#### Re-using one sided paper for printing:

It was observed that two side printing / printing on the back side of used paper in more than 80% of the cases.

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Tree Plantation & Paper bag distribution drive was undertaken by students and staff members.



**Tree Plantation Drive** 



**Paper Bag Disitribution Drive** 

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**Paper Bag Disitribution Drive** 

Swatch Bharat - Campus cleaning environmental activity was organized by college.

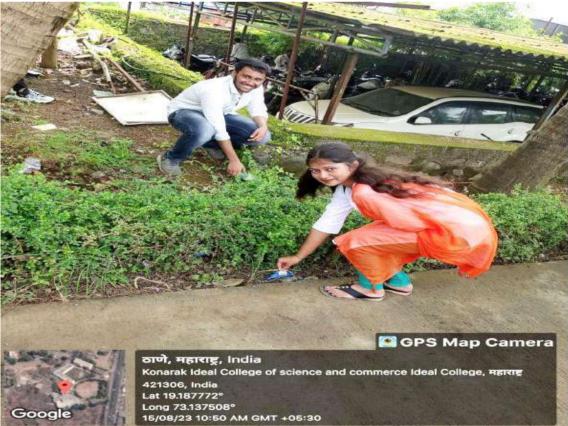


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## IX Renewable Energy

#### **Solar Photovoltaic:**

It is suggested to install rooftop solar panels with net metering for captive usage.

#### **Solar Thermal:**

There is no application of solar thermal system and does not find attractive in this case.

#### **Biogas Plant:**

There is no possibility of installing biogas plant for cooking as the quantity of plate waste is negligible.

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# **Beyond the Campus Environmental Promotion Activities**



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To keep our environment clean every year our college organised Swachh **Bharat Abhiyan** 



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#### WORLD ENVIRONMENT DAY







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To promote green campus initiates our college organised tree plantation camp every year on the occasion of world environment day



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#### **VAN MAHAUTSAV**







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