

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/Environment audit
2. Energy Audit
3. Clean and green campus initiatives
4. Beyond the campus environmental promotion activities



Table of Contents

Executive Summary.....	3
Acknowledgement.....	3
The Audit Team.....	4
1. Introduction.....	5
about the College.....	5
2. Objective of the Study.....	7
3. Methodology.....	7
Onsite Visit.....	7
Focus Group Discussion.....	8
Office/Building Survey.....	8
4. Observations and Recommendations.....	8
Water Use.....	8
a) Observations.....	9
b) Recommendations.....	9
Energy Use and Conservation.....	10
a) Observations.....	10
b) Recommendations.....	10
Waste Management.....	11
a) Observations.....	12
b) Recommendations.....	12
E-Waste Generation.....	12
a) Observations.....	13
b) Recommendations.....	13
Floral and Faunal Biodiversity.....	13


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ISO Certificate of Registration



ISO 50001:2018 Energy Management System

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College, Khultabad

Address: Taluka Khultabad, District Aurangabad 431101, Maharashtra, India

has implemented and maintains an Energy Management System for

Scope :

To Evolve and Impart Comprehensive Higher Education to the Students of Graduation, Post-Graduation, Doctoral, Vocational Courses & Certificate Courses in Arts, Commerce and Science.

An audit was performed and proof has been furnished that the management system fulfils the requirements of international standard detailed below :-

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- Green Education Campus Certificate



Green Education Campus Certification Scheme

Green Education Campus Certification

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ISO 50001:2018 Energy Management System

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Address : Sakra Khultabad, Dist. Aurangabad 431101, Maharashtra, India

has implemented and maintains an Environmental Management System for

Scope :

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Standard : ISO 14001:2015
Certificate No. : 22.GGCS.IN.140215
Certification Date : 27th February 2023
Cert. Expiry Date : 26th February 2026



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has implemented and maintains an Educational Organizations Management System for

Scope :

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Kohinoor Arts, Commerce and Science
College Khultabad, Dist. Aurangabad-431101.

Affiliated to

Dr. Babasaheb Ambedkar Marathwada
University Aurangabad.

ENVIRONMENT & GREENAUDIT REPORT

(2021-2022)



Kohinoor Arts, Commerce & Science College
Khultabad, Dist. Aurangabad



E-Waste Generation.....	12
a) Observations.....	13
b) Recommendations.....	13
FloralandFaunalBiodiversity	13
a) Observations.....	13
b) Recommendations.....	14
4.5. 1 Campus flora... ..	14
4. 5.2 Campus Fauna.....	18
Noise Pollution, Occupational health and safety	23
a) Observations.....	23
b) Recommendations.....	23
5. Solar Energy	26
6. Conclusions	33

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Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the green campus for the institute which will lead for sustainable development. Kohinoor Arts, Commerce and Science College is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher studies at taluka place, the college has initiated 'The Green Campus' programme few years back that actively promote the various projects for the environment protection and sustainability. The purpose of this audit was to ensure that the practices followed in the campuses are eco friendly and sustainable, it works on several facets of Green Campus including water conservation, electricity conservation, tree plantation, waste management, paperless work, mapping of biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the institute is in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on students' health and learning, college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

Acknowledgement

The green audit conducted by the Kohinoor Arts, Commerce and Science College, Khulabad is an internal audit that aims towards looking after a healthy environment. Though nascent, the initiative is taken up to foster the concept of environmental sustainability. Sincere thanks to all for providing us necessary amenities and co-operation during the audit that helped in making the audit, a success.


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The Audit Team

Sr.No.	Name	Positions
1	Dr. Ishwar B. Ghorude	Chairman
2	Mr. Mohamadhanif	Member
3	Dr. Shaikh Arif Yasin	Member
4	Dr. T.D. Pathan	Member
5	Dr. Sushma Surve	Member
6	Dr. B.U. Patil	Member

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1. Introduction

Green Audit can be defined as a management tool comprising as systematic, documented, periodic and objective evaluation of how well environmental organization management and equipment are performing with the aim of safe guarding the environment and natural resources in its operations/projects.

The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience.

It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

1.1 About the college

Kohinoor education society was established in year 1992 by an emone educationist and politician late. Mr. Idris Khan, he was one of the few politicians who was highly educated and eager to devote his most of the time in the field of education and social works.

Mr. Idrish Khan was born on 9th Feb 1954. He completed his education up to B.A., LLB (general). He was a member of the Indian National Congress party from very beginning with full oyalty and faithfulness to the party even in the Janata Party regime. He worked as leader of Youth Congress and conducted the 'JAIL BHARO ANDOLAN' in 1978. For this act he had underg one rigorous imprisonment. The Indian National Congress Party was well aware about this caliber, potential, loyalty and faithfulness. He was appointed as joint secretary Aurangabad city district Congress committee and member of Central railway board, Government of India in the year 1994. The AICC president Smt. Sonia Gandhi had appointed him as executive member of Maharashtra Pradesh Congress committee. He was selected unopposed president of Au

Principal,
Kohinoor Arts, Commerce & Science College
Tq. Khultabad, Dist. Aurangabad



rangabad city district Congress committee on 4th November 2000. He held that office up to 5 November 2003 and left no stone unturned while performing that job.

The foundation of Kohinoor College of arts in 2000 was nothing but her Zealous attempt to provide light of knowledge to those who had been suffering in the darkness of ignorance. The

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unfortunate incident took place that was the sad demise of Idris Khan on 26th August 2005 when the college was at the crucial stage. The task was incomplete and the society desperately needed someone to complete it. Everybody desire Dr. Mazhar Khan to take responsibility.

At the age of 25 years Hon'ble Dr. Mazhar Khan was unanimously elected as the secretary of Kohinoor Education Society in 2007. He has successfully handled the responsibility and within month so finish folding office, the institute got minority recognition by Maharashtra government.

Hon'ble Dr. Mazhar Khan attempts brought permission of science and commerce faculty in 2008, Hon'ble Dr. Mazhar Khan purchased the land in 2009 for rich infrastructural facilities and the potential for further growth. The standalone building was constructed in 2010 which is well equipped and well furnished. The building is competent enough to provide all necessities like rich library, highly configured computer lab, well equipped science laboratories, conference hall and auditorium.

Hon'ble Dr. Mazhar Khan has carried forward the mission of Late Idris Khan and to enrich them out intellectually and economically.

Kohinoor Arts, Commerce Science College
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2. Objectives of the study

- More efficient source management
- To provide basis for improved sustainability
- To create green campus
- To enable waste management through reduction of waste generation, solid-waste and water recycling
- Recognize the cost saving methods through waste minimizing and managing
- Point out the prevailing and forth coming complications
- Impart environmental education through systematic environmental management approach and Benchmarking for environmental protection
- Financial savings through reduction in resource use
- Enhancement of college profile

3. Methodology

The methodology adopted to conduct the Green Audit of the Institution had the following components.

Onsite Visit

The Green Audit Assessment Team started the audit at the Institution on 1-1-2020 which extended for about 3 days. Greenhouse gas emissions and carbon foot print reduction through adoption of green energy and energy-efficient measures were assessed. The key focus was on assessing the status of the green cover, floral and faunal biodiversity of the Institution.

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Focus Group Discussion

The Focus Group included the NSS members, staff members and management people. The discussion was focused on identifying the attitudes and awareness towards environmental issues at the institutional level. The discussion revolved around three key questions: Do the members of the group consider themselves co-conscious? Do they consider the Institution to be eco-friendly? What do they think are the issues that need to be given top priority?

Office/Building Survey

Information on office-based environmental impacts like built-up area, utility bills, energy-saving devices and IT equipments was collected. This information was a ddedt of the carbon foot print data, generating fairly clearer picture of the Institution's annual greenhouse gas emissions and impact of the reduction measures undertaken.

The study covered the following areas to summarise the present status of environment management in the campus:

- Water management
- Energy Conservation
- Waste management
- E-waste management
- Green area management

4. Observations and Recommendations

Water Use

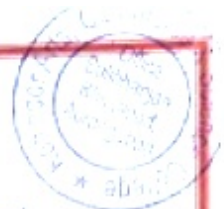
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This indicates or addresses water consumption, water sources, irrigation, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water

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Use and hence improving the efficiency of its use. Drinking water is purchased by water supplier.

a) Observations

The study observed that boar wells are the major sources of water. Water is used for, canteen, toilets, laboratory and gardening. During the survey, no loss of water is observed, neither by any leakages, nor by overflow of water from over head tanks. The data collected from all the departments' is examined and verified. On an average the total use of water in the college is 3200 L/day, which include 700 L/day for domestic purposes, 2200 L/day for gardening and 300L/day for different laboratories.

Rain water harvesting is adopted by the institute and rooftop water is collected in a soak pit for percolation in the ground. Gardens are watered by using drip irrigation system to save water. This is one of the unique steps towards greening practices.

b) Recommendations

- Need of monitoring, controlling overflow is essential and periodically supervision drills should be arranged. In campus small scale/medium scale/large scale use and recycle of water system is necessary.
- Need of adopting artificial recharge techniques in order to deal with waters scarcity.
- Drinking water should be made available after purification.
- Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. are biodegradable and non-toxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH)

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Solar Street Lights



KAR
Kohinoor Arts & Science College
Tq. Kolar, Dist. Tumkur



Department of Psychology, University of California, Los Angeles, CA 90095-1553



[Handwritten signature]

K. J. Somaiya Institute of Technology and Engineering
Vashi, Mumbai - 401 208



Tax Invoice

ECO POWER SOLUTIONS(2020-21) 108 MALGE MAJESTIC, PLOT NO. 06, SUTGIRNI MARG, GARKHEDA PARISAR, AURANGABAD GSTIN/UIN: 27AAFFE308BF1ZF State Name: Maharashtra, Code: 27 E-Mail: info.epcindia@gmail.com		Invoice No. 113 Delivery Note	Dated 13-Mar-2021 Mode/Terms of Payment
Customer The Principal Kohinoor College Kohinoor Arts, Commerce & Science College Khullabad. State Name: Maharashtra, Code: 27		Supplier's Ref. 113 Buyer's Order No.	Other Reference(s) Dated
Buyer (if other than consignee) The Principal Kohinoor College Kohinoor Arts, Commerce & Science College Khullabad State Name: Maharashtra, Code: 27 Place of Supply: Maharashtra		Despatch Document No. Despatched through Terms of Delivery	Delivery Note Date Destination

Sl	Description of Goods	HSN/SAC	Quantity	Rate per	Disc %	Amount
1	INVERTOR SUPPLY OF 1000 POLYCAR INVERTER	8504	1,000 NOS	95,000.00 NOS		95,000.00
2	SOLAR PANEL SUPPLY OF 10 KW VIKRAM SOLAR	8541	10,000 WATT	21.00 WATT		2,10,000.00
3	MS ANGLE 50*50*5MM	7210	100,000 Kg	55.00 Kg		5,500.00
4	MS PIPE 50*50*5 MM	7306	125,000 Kg	60.00 Kg		7,500.00
5	COPPER CABLE 4 CORE 10 SQMM AC POWER CABLE	8544	70.00 MTR	125.00 MTR		8,750.00
6	DC COPPER CABLE 4 SQMM DC CU WIRE	8544	100.00 MTR	42.00 MTR		4,200.00
7	AC DB & DC DB	8538	2,000 NOS	7,500.00 NOS		15,000.00
8	MCB 32 AMP	8536	1,000 NOS	1,200.00 NOS		1,200.00
9	DC MCCB 16 AMP	8536	2,000 NOS	750.00 NOS		1,500.00
10	COPPER EARTHING WIRE	8544	120.00 MTR	35.25 MTR		4,230.00
11	G.I EARTHING PIPE	7307	3,000 NOS	750.00 NOS		2,250.00
12	NUTS BITS CLAMPS, CONNECTORS & CONCRETE	8530	1 LOT	5,000.00 LOT		5,000.00
13	LED STREET LIGHT 24 Watt Solar Street Light with Panel & Battery	8541	4,000 NOS	12,500.00 NOS		50,000.00
						4,10,130.00
OUTPUT CGST 2.5% OUTPUT SGST 2.5% OUTPUT CGST 9% OUTPUT SGST 9% ROUND OFF						8,875.00 8,875.00 4,061.70 4,061.70 (-)9.40
Total						₹ 4,37,803.00 E & O E

Amount Chargeable (in words)
 Indian Rupees Four Lakh Thirty Seven Thousand Eight Hundred Three Only

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

Company's Bank Details
 Bank Name: **FEDERAL BANK (Current A/c 3637)**
 A/c No.: **14880200003637**
 Branch & IFS Code: **AURANGABAD BR.**

Customer's Seal and Signature

for ECO POWER SOLUTIONS(2020-21)
 Authorized Signatory

SUBJECT TO AURANGABAD JURISDICTION
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6. Conclusion

Considering the fact that the institution is predominantly a higher education institute at a taluka place, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. Paperless work system and vermin composting due to availability of space. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus & thus sustainable environment and community development.

As part of green audit of campus, we carried out the environmental monitoring of campus includes Illumination, Noise level, and Ventilation and Indoor Air quality of the class room. It was observed that Illumination and Ventilation is adequate considering natural light and air velocity present. Noise level in the campus well within the limit i.e. below 50dB at day time.

A great effort has been made to tackle the energy crisis issues through the installation and functioning of ultimate source of energy i.e. solar energy. As a rural institute our College initiated an activity to adopt eco-friendly lifestyle by the consumption of energy through solar source for which solar appliances have been installed on the college building. Our College installed Solar Panels of 10 KW grid on the terraces. It produces average 1200 to 1400 Units electricity per months *and* there are total four 70watt LED solar Street lights installed at campus.

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- Beyond the campus environmental Promotion Activites



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Signature

Khairuddin Khan, Headmaster, Government College
T. Sindh, District, Sindh, Pakistan



Energy Use and Conservation

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.


a) Observations

Energy source utilized by all the departments is electricity only. Total energy consumption determined as 735 KWH/Month by major energy consuming equipments.

All the departments are equipped with CFL and LED lamps. Approximately 15 CFLs (Capacity) and 22 LED are counted during survey. Equipments like Computers are used with power saving mode. In science department like Physics, Chemistry, Mathematics, Botany, Zoology, Electronics, Computer Science and B.Voc electricity was shut down after occupancy time is one of green practices for energy conservation. Institute is having capacity power generate or which is used during power cuts.

b) Recommendations

- Support renewable and carbon-neutral electricity options on any energy purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.
- Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity.


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Waste Management

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc and recycling. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service, repair, and reuse. Solid waste generation and management is a burning issue. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus. The different solid wastes collected as mentioned above.

[Signature]

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a) Observations

The total solid waste collected in the campus is 7 Kg/day. Waste generation from tree droppings is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for Bio-degradable and Plastic waste. Segregation of chemical waste generated in science laboratories is also practiced. Practicals are done at micro scale with infinite dilution which produces no effect on waste water. Single sided used papers reused for writing and printing in all departments. Important and confidential reports/ papers are given to authorized scrap agents after completion of their preservation period. Very less plastic waste (0.5 Kg/day) is generated by some departments, office, garden etc., but it is neither categorized at point source nor sent for recycling. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing. Few glass bottles are reused in the laboratories. The food waste from main canteen and mess is buried in soil and composted.

b) Recommendations

- Reduce the absolute amount of waste that it produces from college staff offices.
- Make full use of all recycling facilities provided by City Municipality and private suppliers, including glass, cans, white, colored and brown paper, plastic bottles, batteries, print cartridges, cardboard and furniture.
- Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated.
- Single sided papers to be used for writing and photocopy
- Important and confidential papers after their validity to be sent for pulping

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E-Waste Management

E-waste can be described as consumer and business electronic equipment that is discarded then does not fit its use full life. This makes up about 5% of all municipal solid waste worldwide but is

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much more hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment.

a) Observations

E-waste generated in the campus is very less in quantity. The cartridges of laser printers are refilled outside the college campus. The E- waste and defective item from computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facility in order to dispose E-waste in scientific manner. Academic and administrative staff is instructed to store E-waste properly and not to dump openly in the campus.

b) Recommendations

- Recycle or safely dispose of white goods, CFL, LED lamps, tube lights, computers and electrical appliances.
- Use reusable resources and containers and avoid unnecessary packaging where possible.
- Always purchase recycled resources where these are both suitable and available.

Floral and Faunal Biodiversity

This includes the plants, vertebrates and insect biodiversity of the campus. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programmes.

a) Observations

Campus is located in the vicinity of trees, herbs, shrubs, flowering plants, climbers, various grasses and medicinal plants. Various tree plantation programs

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Organized during the month of July and August at college campus and surrounding villages through NSS unit. This program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and awareness among villagers. The plantation program includes various types of indigenous species of ornamental, medicinal and wild plant.

Fauna includes various types of vertebrates, insects, birds, reptiles, butterflies and moths.

b) Recommendations

- Reviews periodically the list of trees planted in the garden, allodium bers to the trees and keep records. Give scientific names to the trees.
- Promote environmental awareness as a part of coursework in various curricular areas, independent search projects, and community service.
- Create awareness of environmental sustainability and take action to ensure environmental sustainability.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Celebrate every year 5th June as 'Environment Day' and plant trees on this day to make the campus more Green.

Campus flora

Sr. No.	Botanical Name	Family	Common Name
1	<i>Tictona grandis</i>	Lamiaceae	Sagvan
2	<i>Azardiachta indica</i>	Meliaceae	kadulimb
3	<i>Duranta erracta</i>	Verbenaceae	sunshine plant



4	<i>Tinosporacordifolia</i>	Menispermaceae	gulvel
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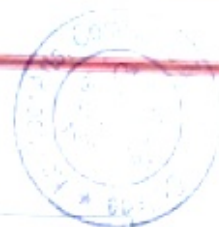
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5	<i>Madhukalogifolia</i>	Sapotaceae	mahua
6	<i>Emblicaofficinalis</i>	Phyllanthaceae	aamla
7	<i>Tridaxprocumbence</i>	Asteraceae	tantani
8	<i>Hibiscusrosasinesis</i>	Malvaceae	jaswand
9	<i>Argemonemaxicana</i>	Papaveraceae	pivladhotra
10	<i>Abitulonindicum</i>	Malvacea	petari
11	<i>Ficusreligiosa</i>	Moraceae	pimple
12	<i>Neriumindicum</i>	Apocynaceae	knher
13	<i>Bahuniaavarigata</i>	Fabaceae	aapta
14	<i>Acaciaarabica</i>	Mimosaceae	babul
15	<i>Polyalthalongifolia</i>	Annonaceae	ashokaplant
16	<i>Tamarindusindica</i>	Fabaceae	chinch
17	<i>Boganvelleaspecticulis</i>	Nyctaginaceae	kagadiphul
18	<i>Bryophyllumpinnatum</i>	<u>Crassulaceae</u>	panphuti
19	<i>Lantanacamera</i>	Verbenaceae	kamuni
20	<i>Tagetuserecta</i>	Asteraceae	marigold(zendu)
21	<i>Calotropisprocera</i>	Ascalpediaceae	rui

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22	<i>Psoralea corylifolia</i>	fabaceae	bavchi
23	<i>Caesalpinia pulcherrima</i>	caesalpinaceae	gulmohar
24	<i>Moringa olifera</i>	-moringaceae	shevga
25	<i>Ziziphus jujuba</i>	Rhamnaceae	ber
26	<i>Aloe vera</i>	Liliaceae	korphad
27	<i>Jasminum multiflorum</i>	Oleaceae	juice
28	<i>Caloptocarpus vialis</i>	Asteraceae	-----
29	<i>Ageratina riparia</i>	Asteraceae	Mistflower
30	<i>Taraxacum officinale</i>	Asteraceae	-----
31	<i>Senecio vulgaris</i>	Asteraceae	-----
32	<i>Clerodendrum inerme</i>	Verbenaceae	-----
33	<i>Xanthium strumarium</i>	Asteraceae	-----
34	<i>Tenotaphrum secundatum</i>	Poaceae	grass
35	<i>Cyperus rotundus</i>	Poaceae	grass
36	<i>Cassia tora</i> Linn	Leguminosae	----
37	<i>Barleria prionitis</i>	Acanthaceae	katekoranti
38	<i>Pedaliium murex</i> L	Pedaliaceae	-----

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39	<i>Thujaoccidentalis</i>	Cupressaceae	-----
40	<i>Prunusdulcis</i>	<u>Rosaceae</u>	-----
41	<i>Punicagranatum</i>	Lythraceae	Anar
42	<i>Manilkarazapota</i>	sapotaceae	Chikku
43	<i>Morusalba L</i>	Moraceae	Malberi
44	<i>Cocusnucifera</i>	Arecaceae	Nariyal
45	<i>Plumeriarubra</i>	Apocynaceae	-----
46	<i>Eucalyptus</i>	<u>Myrtaceae</u>	Niligiri
47	<i>Murayapaniculata</i>	<u>Myrtaceae</u>	Kadipatta
48	<i>Acanthospermumhispidum</i>	Asteraceae	Landaga
49	<i>Annonasquamosa</i>	Annonaceae	Shitafal
50	<i>Alstoniascholaris</i>	Apocynaceae	-----
51	-----	Arecaceae	<i>palm tree</i>
52	<i>Phoenixsylvestris</i>	Arecaceae	shindi
53	<i>Mangiferaindica</i>	Anacardiaceae	aamba
54	<i>Cyperusrotundus</i>	Cyperaceae	nagarmotha
55	<i>Ficuselastica</i>	<u>Moraceae</u>	Rubber

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56	<i>Limoniaacidissima</i>	<u>Rutaceae</u>	Kavath
57	<i>Ixorachinesis</i>	Rubiaceae	-----
58	<i>Terminaliabellirica</i>	Combretaceae	Behda

Campus Fauna

Phylum/Class	Common Name	Scientific Name	Numbers
Phylum Invertebrates	Antlion	Myrmeleonesps	Richdiversity
	Centepede	Scutigera coleoprata	Rare
	Milipede	Deplopoda	Rare
	Snails	Cornuaspersum	Rare
	Grasshoppers	Melanoplus differentialis)	Rich
	Ants	Lasiusniger	Rich
	Beetles	Coelopteran	Rare
	Honeybee	Apisindica	Rich
	ButterflyS wallowtail	Papiliodemoleus	Moderate
	BluePancy	Junoniaaorythia	Rare
	Common Grass Yello w	Eurhecabe	Rich

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	Plain Tiger	Danaus Chrysippus	Rare
	Blue Tiger	Tirumalalimniace	Rare
	Blue mmonBut terfly	Hypolymnasbolina	Rare
Vertebrates	Garden Lizards	Calotes versicolor	Rich
	snake	Naja naja	Rare
	Rat	Rattus rattus	Rich
	Wall Lizard	Hemidactylus frenatus	Rich
	Common Sparrow	Passer domesticus	Rich
	Crow	Corvus	Rich
	Maina	Acridothera tristis	Rare


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Tg. Kottayam, Dist. Kottayam



[Handwritten signature]
 Assistant Professor, P. V. S. College
 P. V. S. College, P. V. S. (Gandhi)



Kabir Singh
Kabir Singh, Jammu
Kabir Singh, Jammu



Noise Pollution, Occupational health and safety

This includes noise level of the campus and whether the institute takes care of the health and safety of the employee and students. Academic and supportive staff as well as students of science faculty comes in contact with hazardous chemicals every day. The laboratories should be provided with all required safety equipments which can be used in emergency.

a) Observations

Noise level of the campus is less than 50 dB during day time. Each and every laboratory has displayed safety signs and symbols and safety instructions at various places. Laboratories are provided with fire extinguishers which can be used in emergency. Labs are provided with exhaust fans which help in exhausting the fumes of the chemicals liberated in the labs while performing practical and air circulation. Students are strictly instructed to wear apron and PPE while performing practicals.

b) Recommendations

- No horn and silent zone boards should be displayed in the parking area.
- Students should be supervised while performing the practicals to avoid accidents and spillage of chemicals on the body.
- Sprinklers of the chilled water should be provided for labs for eyes and face washing during emergency.
- First aid boxes should be kept proper and with all necessary equipments and medicines.

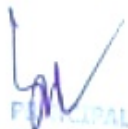
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5. SOLAR ENERGY



Introduction:

World's energy demand is growing fast because of population explosion and technological advancements. It is therefore important to go for reliable, cost effective and everlasting renewable energy source for energy demand arising in future. Solar energy, among other renewable sources of energy, is a promising and freely available energy source for managing long term issues in energy crisis. Solar industry is developing steadily all over the world because of the high demand for energy while major energy source, fossil fuel, is limited and other sources are expensive. In today's climate of growing energy needs and increasing environmental concern, alternatives to the use of non-renewable and polluting fossil fuels have to be investigated. One such alternative is solar energy. Solar energy is quite simply the energy produced directly by the sun.

Kohinoor College is one of the rural institutes contributing in the Environmental and Social prosperity by inculcating the practical knowledge to aware the individuals regarding the importance of renewable sources of energy. A great effort has been made to tackle the energy crisis issues through the installation and functioning of ultimate source of energy i.e. solar energy. As a rural institute Kohinoor College initiated a activity to adopt eco-friendly lifestyle by the consumption n of energy through solar source for which solar appliances have been installed on the college building. Our College installed Solar Panels of 10 KW grid on the terraces. It produces average 1200 to 1400 Units electricity per months and there are total four 70watt LED solar Street lights installed at campus. The radiation that does reach the Earth is the indirect source of nearly every type of energy used today.

Use of Renewable Energy:

The use of renewable energy like solar energy at college. The details are as follows:

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Sr. No.	College campus	Solar panel	Capacity
1	On College terrace	10 kw	335 Wp
2	Solar Street lights	4	70 watt each

Besides the use of solar energy at college campus, the college plans to make use of solar energy to light up the area around the college play ground.


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Solar panel on college terrace



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Dr. Jyoti Chavhan
Principal, Pimpri Chinchwad Education Trust




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