



**Adarsh Shikshan Sanstha's**  
**KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE**  
**SHIRUR KASAR, Dist. -Beed**  
**Internal Quality Assurance Cell**

**CRITERION VII<sup>th</sup>**

**Institutional Values and Best Practices**

**Key Indicator 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**

Green audit/environmental audit report from recognized bodies



## **BASELINE ENVIRONMENTAL ASSESSMENT (2022-23)**



**ADARSH SHIKSHAN SANSTHA BEED'S,  
KALIKADEVI ARTS, COMMERCE AND SCIENCE  
COLLEGE,  
SHIRUR KASAR, TQ- SHIRUR(KA), DIST- BEED,  
MAHARASHTRA.**

**(Affiliated to Dr. Babasaheb Ambedkar Marathwada University,  
Aurangabad)**

## 1. Introduction

### COLLEGE INTRODUCTION:

#### **Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar.**

Adarsh Shikshan Sanstha is a rural voluntary service organization. It was established by the contribution of authentic members with the motive of "Social Development" in Taluka Shirur Kasar Dist. Beed state Maharashtra. Kalikadevi Arts, Commerce and Science College Shirur Kasar, run by Adarsh Shikshan Sanstha Beed was established in January 2002 by Honourable late Kesharbai Sonajirao Kshirsagar Alias Kaku (Ex. Member of Parliament), with noble and foresighted vision to provide higher education to youth of rural areas. The College is affiliated to Dr. Babasaheb Ambedkar Marathwada University Aurangabad. The college provides three programs; at UG level i.e. Arts, Commerce and Science and two programs of PG level M.A. English and M.Com. The college has also introduced, Tourism and Service Industries course from academic year 2019-2020. UGC has recognized the institution with 2(f) and 12(B).

The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen; consumer store (Grahak Bhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care centre and competitive examination coaching classes' centre for students of college and other stakeholders. College arranges study tours to places of historical and geographical importance, visits to various study centres, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech events science exhibition etc. Our NSS and Life Long Learning and Extension



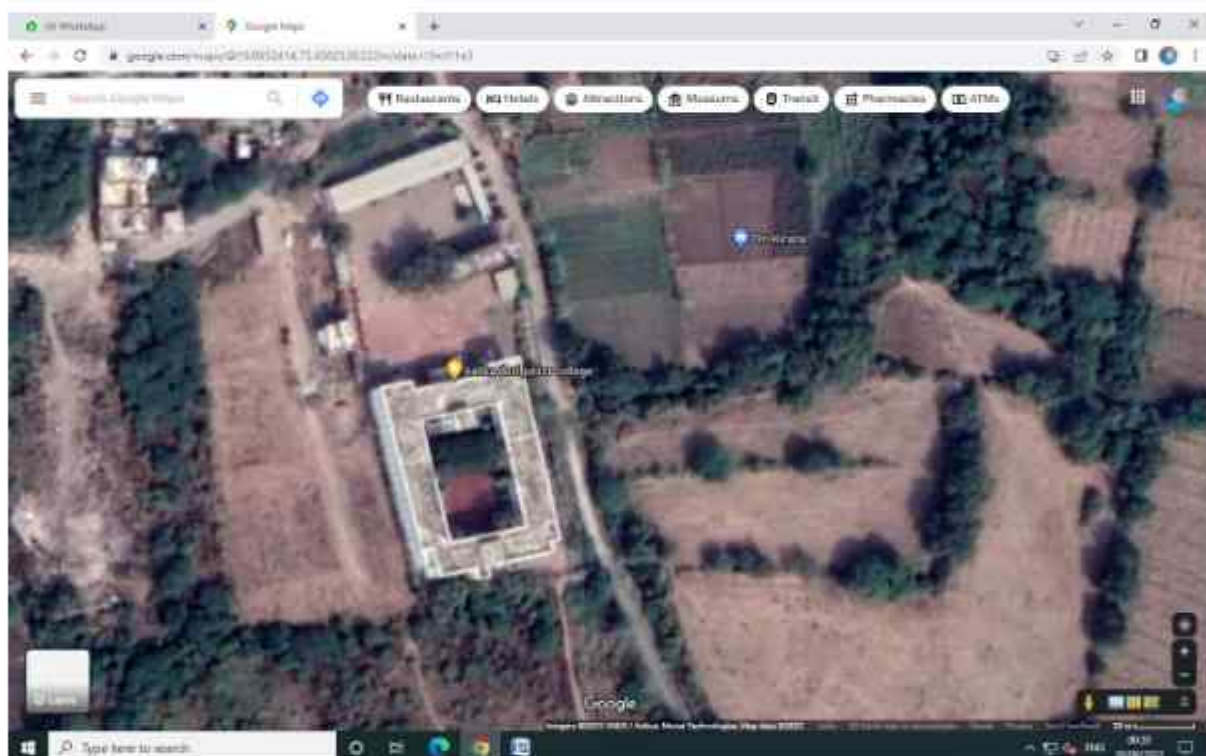
department conducts society oriented programmes like blood donation camps, eco-friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy programme etc. Student mentoring system is also available in the college to solve the student's personal and social problems.

With a proper Vision and Mission we, as an Institute are striving to give quality Education, Ethics and Morals to our students and looking forward to give as much as we can.

### **Campus area:**

- 1 Total Campus Area-10119.19 SQ.M
- 2 Built up Area- 3259.76 SQ.M

### **Geographical Description:**



Maharashtra state is situated in western side of India hence Beed is situated in the Deccan black basalt rock, ranges of Balaghat that constitutes main rang from Ahmednagar in the west, to the border of district Beed in the East. This range divides the district into two parts. The plain area in the north is called as Gangathadi (bank of Ganga-Godavari) and the higher part is called as Ghat at Balaghat. Many hills exceed



2500 feet mark from the sea level. Balabhat range is found in between heights of 2000 and 2200 feet, whereas the plain is called Gangathadi and it has the heights between 1200 and 1500 feet from the sea level.

ShirurKasar is a Tehsil in the Beed subdivision of the Beed district, in the Indian state of Maharashtra. The town is situated on the southern bank of the river Sindafana, a tributary of the Godavari River. ShirurKasar obtained Tehsil status in 1999. Prior to that it was part of the Tehsil Patoda, which is also a subdivision of the Beed district.

Rainfall-

Shirur Kasar Tehsil is situated in draught prone area of Maharashtra in the Balaghat mountain ranges. In ShirurKasar Tehsil the average annual temperature is 25.40C and the average rainfall is 498 mm

Geographical Location–

ShirurKasar is one of the important Tehsil in Beed District. In Beed District total number of Tehsil is 11 in that Shirur Kasar is made in 1999 divided from Patoda Tehsil. Total population of Shirur Kasar is 128583. There are 26642 houses in the Tehsil. Geographically Shirur Kasar tehsil is located between 19°04, 30, N latitude and 75°04,54,, E Longitude.

## **1. COLLEGE VISION & MISSION:**

### **VISION**

The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development of self and society..

### **MISSION**

- To mentor and inculcate social moral values in students and empower them towards nation building activity.
- To cultivate feeling of social bonding and development among students through different intervention and entrepreneurship program of college.
- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform student to feel free to point out their problems general drawbacks and limitations.

### **1.1 OBJECTIVE OF THE COLLEGE:**

Following are the objectives of the college:

- To Improve Satisfaction And Engagement Level Of Students
- To Promote Use Of ICT For Formal And Informal Education.
- To Equip Students With Participatory And Partnership Role In Higher Education.
- To Inculcate Team Spirit And Provide Environment To Work As A Team With Right Efforts Avoiding Evil Thoughts.
- To Bring About Improvement In Teaching Learning Process And Promote Research Environment Among Faculty And Students.

### **1.2 Perspective Plan**

- To Establish MOUs and Linkages with National and International Institutes.
- To Submit Minor/Major Projects to UGC and Other Funding Agencies.
- To Develop Smart Class Rooms.

- To Introduce Vocational And Skill Based Add On Courses.
- To Develop Green Campus.
- To Increase Student Placement Rate.
- To Organize National / International Seminar / Conference.
- To Introduce PG Courses In Science Faculty.

Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar. demonstrates its commitment to implement sustainable solutions in different ways. It has taken a number of positive steps to reduce possible environmental impact. The management is keen on accepting new ideas of resource management.

The environmental assessment of an educational institute being carried out in different phases.

- To establish a baseline of existing environmental scenario
- To provide basis for improved sustainability
- To promote environmental awareness through the assessment process
- To create an educational document for future use

In view of making green and eco-friendly campus the organization has taken an important step to understand the environmental parameters within the campus. This report serves to highlight, the efforts towards greener campus. The first step taken in this direction is establishing a baseline of existing condition.

The different environmental criterias with their current status, action being taken by an institution and effective ways to improve the actionable points being highlighted in this report. Sensitization of all the stakeholders of an institution towards eco-friendly campus is very crucial at this juncture.



## 2. Environmental criteria's

### 2.1. 'Know green and think green' there is promoted on the campus

#### Governance and Leadership

The college has clear policies, principles or goals that provide direction for staff, administrators, and other members of the campus community. Clear decision-making power and reporting mechanisms with responsibilities to monitor, report, give advice about, and promote action and awareness around environmental sustainability.

#### Action:

The College currently has an Environmental Advisory Committee (ECC), which is composed of members each from different stake holders of the college. It is co-chaired by a student and by the head of facilities. The ECC has been very active in discussing and advising the College on campus sustainability issues.

#### Environmental Conciosness Committee (ECC) – (2022- 2023)

SN	Name of the Committee Member	Designation
1	Dr. Gholap P. N.	President, (Principal)
2	Dr. Tupe S. K.	Coordinator
3	Dr. Sawate S. R.	Member
4	Dr. Lomte S. B.	Member
5	Mr. Vitthal Tupe	Non-Teaching representative
6	Miss. Bharti Sanika Bhagvat	Student representative
7	Miss. Ayesha Riyaj Shaikh	Student representative
8	Mr. Uddhav Ashok Sable	Parent representative

Since commencement, the committee has discussed such topics as campus energy use, recycling of plastic, reduce use of plastic, composting of dining hall waste, saving water and sustainable use of resources.

## **2.2 Dining**

The college campus accommodates 900 members including students and staff. The college authorities have appointed food supply vendor within the campus area. On an average approximately 881 students and staff utilizing campus area for dining purpose on working days.

**Action:** The garbage being properly collected through well designed network of garbage collection bins throughout campus. The waste dumping site has been created and then it is being collected by local Municipal system of garbage collection to collect this organic waste from dining facilities on daily basis. Any occasion/college functions the snacks items being served in paper plates. Plastic being avoided strictly. Vermicomposting pit is maintained well.

## **2.3 Water conservation and prevention of water wastage**

The source of water for the college is open Bore well water supply for drinking & other uses. The college has 1 water filters & cooler with 100 LPH capacity and filter water supplied within the premises for drinking purposes. Water supplied within the premises for laboratories, departments, washrooms purposes through pipelines. The water quality monitoring is being done regularly. The water consumption within the campus is controlled by campus authority. The storage tanks are as follows

Underground tanks: NA

Overhead tank 5: Capacity – 2000 x 2 lits and 1000 x 3 lits

So total water storage capacity 7,000 Litters

The approximate water uses on any working day during working hours can be summarized as follows.

S.No	Activity	Utilization (Student + staff)	Total lits(Approx.)
1	Drinking	700 x approximately 1 lit	700
2	Toilet	800 x approximately 3lit	2400
3	Laboratories		500
4	Watering plants		1000
5	Spraying on play ground		500
6	Canteen area		1000
			6100

**Action:**

- 1) Awareness on minimum and adequate water use.
- 2) Regular water quality monitoring. (Water & Waste water).
- 3) Well planned experimental schedule of different classes. Laboratory waste water discharged into soak pit.
- 4) The design of urinals Indian & western Washrooms, Urinals & Latrines- 16 (Girls, Boys & staff) was made in such way that it causes minimum wastage of water. Drainage water from urinals discharged into Municipal drainage system.
- 5) Watering to plants being done by manual sprinklers.
- 6) Ensuring the implementation of water saving devices and techniques.
- 7) Sewage water of campus being collected and discharged into municipal sewer line which is further processed to sewage treatment system of Municipal Corporation.

**2.4 Solid waste management**

The college working hours are from 7.00 am to 4.00 pm. There are different activities and projects being implemented in different departments. The number of students in the campus along with staff members goes to approximately 900.



The daily solid waste being generated in the camps categorized in the following way.

S.No	Activity	Utilization (Student + staff)	Total kg.
1	Classroom 14 + Seminar Hall 1 + Staffroom 1 + Girls & Boys common room 2 + Exam section 1 + Reception area 1 + Sport complex Auditorium)	25 Dustbin x 300gms	7.5 kg approximately
2	Laboratories 5 + Chemical store 1	Labs x 250 gms	1.5 kg approximately
3	Canteen/snaks/meal	Students & staff used for snacks or meal	5 kg approximately
4	Sweeping and cleaning	Campus	10 kg approximately
5	Admin block	All offices	2 kg approximately
			26 kg approximately

**Action:**

- 1) Usage of recycled paper bags was promoted among students by displaying boards like 'Say No to Plastic'
- 2) Reduce – Reuse – Recycle methods are followed – Different type of chemicals from different laboratories and chemical stores being returned to respective vendor after expiry date.
- 3) Office paper waste being collected and given to vendor for recycling on annual basis.
- 4) Examination paper being retained in the institution for 3 years and then given to vendor for shredding which in turn being sent for pulping for generating recycle paper.
- 5) The collection bins are made for specific types of waste.
- 6) The number of printouts has been reduced from admin blocks and computer laboratories.

### **Hazardous waste management**

The college authorities are well aware about the monitoring and management of chemical-intensive process. This process considers toxicity, downstream impacts, staff safety, cost and packaging.

#### **Action:**

- 1) The college performs well in terms of custodial chemical use, monitoring their use, minimizing their impact, and keeping employees and others safe.
- 2) All the chemicals are bought from chemical supply vendors, by contracting on annual basis. The college reduces costs, limits inventory, limits overuse, and help maintain consistent chemicals (consistency helps keep workers safe).

### **E-waste management**

The college has a system to collect e-waste separately in specially designated bin. The Jadhav computer which is authorized vendor, has been contracted for collection and disposal.

### **2.5 Carbon dioxide neutrality**

Carbon dioxide neutrality has been maintained on the campus by developing greenery with available plants. The 10 to 40 % area is occupied by greenery by different type of plants. The list attached with its significance.

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programme.

Campus is located in the vicinity of various (species) trees. Various tree plantation programs are being organized during the month of July and August at college campus and surrounding villages through NSS unit. This program helps in encouraging eco-friendly actions in the environment which provides pure oxygen within the institute and awareness among citizens. The organization is keen on providing hands on experience to students by providing opportunity to participate in various government initiatives. Students are in real sense being connected to the community at large. The organization has decided to adopt certain villages and to work for rural development purpose.

**Action:**

- 1) The campus is situated in such an area that there is no any other type of disturbance.
- 2) An indoor atmosphere is designed to be well ventilated that airflow mixing of fresh/outdoor air is continuous.
- 3) Specific strategies and plans in place in order to reduce transportation impacts.
  - a) Parking slot for students maintained at the main entrance to restrict the traffic movement in the campus.
  - b) Awareness among the students was increased to use public transport.
  - c) The layout of the campus is relatively open with much green space, thus keeping the amount of impermeable surface area below 50%
  - d) The college has a canopy of trees and plants that make the environment healthy.
  - e) Plants were selected with low maintenance requirements and that otherwise fit the local ecosystem (i.e. provide habitat for native species of insects and birds).



f) At present the indigenous trees are dominant all over the campus. The medicinal plants planted and maintained in the campus. Some plants mentioned in list of medicinal plants are really important.

## **2.6 Campus Culture and Environmental Awareness**

The college has aim to educate all students in the area of environmental studies in an interdisciplinary framework, and provide adequate training for those students who wish to pursue environmental research in accordance with engineering or environmentally-related career choices.

### **Action:**

1. College has developed a clear assessment of the environmental studies curriculum for faculty, students, and administration.
2. The college undertakes various activities through effective use of ongoing schemes like N.S.S., through Earn and Learn Scheme. In these schemes students work for beautification of campus, water and power management, the biodegradable and non-biodegradable waste segregation. To create eco-friendly awareness among the students, college arranges special programmes by inviting the eminent personalities, who in turn train and educate stake holders. Students are encouraged to participate in eco-friendly activities by making the activities of eco-club part of the curriculum.
3. College authorities have created an atmosphere of awareness and sense of responsibility within the campus regarding environmental issues. Engaged students, faculty, staff and administration in cooperative analysis and response to these issues.
4. College has developed its own environmental policy for the campus and displayed it everywhere.

## **\*Environment Policy\***

***We are committed to protect Environment, Occupational Health and Safety of all through our work and activities. We Endeavour to...***

Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar is committed to reduce its impact on the environment. We will strive to improve our environmental performance over time and to initiate additional projects and activities that will further reduce our impacts on the environment.

Our commitment to the environment extends to our students, our staff, and the community in which we operate. We are committed to:

- 1) Comply with all applicable environmental regulations.
- 2) Prevent pollution whenever possible.
- 3) Minimizing waste by reviewing purchasing practices and segregating waste for reuse and recycling.
- 4) Purchase and use environmentally responsible (recyclable, refurbished, etc.) products from environmentally responsible suppliers (i.e. suppliers who emphasize the need for renewable energy supplies).
- 5) Train all of our staff on our environmental program and empower them to contribute and participate.
- 6) Continually improve over time by striving to measure our environmental impacts and by setting goals to reduce these impacts each year.

### **As per the policy guidelines the institution is implementing**

- 1) College is implementing Environmental Module as prescribed by the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- 2) Organization of various seminars & workshops on regular basis

### 3. General Recommendations:

- The College should improve its monitoring and reporting of energy, water and other resource usage.
- To reach the goal of a 30% recycling rate, which some institutions have achieved, college should compost food waste and be more vigorous about recycling education.
- College should continue to work towards composting post-consumer food waste generated by the dining areas.
- The college should continue to stay with current chemical products that may have a minimal environmental impact and make this an explicit formal goal.
- Any future increases in servers should be consolidated in one "machine room," rather than building another on campus with the same high maintenance requirements.
- The ECC should make decisions with respect to continuous input, interests and commitments of the students, participating faculty, and administration.
- College should develop a mechanism of monitoring and information dissemination of various environmental parameters. As have problems with accurately and consistently monitoring electrical usage (especially in terms of individual buildings) and water usage.
- College should take efforts by putting Environment awareness slogans on the walls to inculcate values on student's mind.
- Chemistry department should encourage "Green Chemistry" program.
- Maintain rain water harvesting system effectively.
- Environment Awareness programmes and Environmental field visits should be arranged on more frequent basis for Hands on Experience.



## **4. Conclusions**

The findings of this report show that the college performs fairly well on sustainability issues. The college does consider the environmental impacts of most of its actions and makes a concerted efforts to act in an environmentally responsible manner. In conversations with faculty, staff administration at the college, shows improvements made over the last few years to enhance environmental awareness.

Even though the college does perform fairly well, the recommendations in this report highlights many ways in which the college can work to improve its actions and become a more sustainable institution.

In this section, the recommendations are ranked in terms of priority.

### **4.1 The high priority recommendations are:**

- Continue working towards worm composting the post-consumer food waste generated by the dining halls.
- Adopt the proposed Environmentally Responsible Purchasing Policy, and work towards creating and implementing a strategy to reduce the environmental impact.
- With regards to the concerns mentioned in this report, the College should consider adopting specific goals and targets in its pursuit of sustainability.

#### 4.2 The medium priority recommendations are:

- Look towards meeting different environmental standards.
- Continue to stay with chemical products that may have a minimal environmental impact and make this an explicit formal goal.
- Develop explicit policies concerning the impact of new construction on impervious surface area and runoff.
- Continue to support the work of the ECC and should ensure that its recommendations are considered carefully and in a timely manner through the appropriate chain of command.

#### 4.3 The minor and future concerns are:

- Encourage student project on environmental footprint for College.
- Continue expanding research program to better educate students about natural history and college role in preserving biodiversity and optimum utilization of natural resources.
- Apply fees/charges for parking and implement it across all types of employees, faculty, and students in order to encourage use of public transport.
- Should formulate "Environmentally Responsible Purchasing Policy" for college

#### List of Plants available at college:

Medicinal plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Adulsa	<i>Justiciaadhatoda</i>	2
02	Jaswand	<i>Hibiscus rosa-sinensis</i>	1
03	Mehandī	<i>Lawsoniainermis</i>	1
04	Aawala	<i>Phyllanthusemblica</i>	2

05	Anjeer	<i>Ficus carica</i>	1
06	Limboni	<i>Limonia acidissima</i>	1
07	Idlimbu	<i>Citrus jambhiri</i>	1
08	Nagdaman	<i>Artemisia nilagirica</i>	1
09	Pandhariringni	<i>Solanum surattense</i>	1
10	Panphuti	<i>Bryophyllum pinnatum</i>	2
11	Mango	<i>Mangifera indica</i>	1
12	Karipatta	<i>Murraya koenigii</i>	1
13	Shevga	<i>Moringa oleifera</i>	1
14	Tulas	<i>Ocimum tenuiflorum</i>	3
15	Dalimb	<i>Punica granatum</i>	1
16	Gulwel	<i>Tinospora cordifolia</i>	1
17	Arjun	<i>Terminalia arjuna</i>	1
18	Korphad	<i>Aloe vera</i>	2
19	Aswagandha	<i>Withania somnifera</i>	1
20	Shatawari	<i>Asparagus racemosus</i>	1
21	Tuti/ Shahatut	<i>Morus alba</i>	1
22	Onions	<i>Allium cepa</i>	1
23	Papaya	<i>Carica papaya</i>	3
24	Shitaphal	<i>Annona squamosa</i>	2
25	Lahasun	<i>Allium sativum</i>	1
26	MakadShindoli	<i>Caralluma fimbriata</i>	1
27	Nagwel	<i>Piper betle</i>	2
28	Pudina	<i>Mentha piperita</i>	1
29	Adrak	<i>Zingiber officinale</i>	1
30	Coconut	<i>Cocos nucifera</i>	4
31	GavatiChaha	<i>Cymbopogon citratus</i>	1
32	Aaghada	<i>Achyranthes aspera</i>	1



Ornamental plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Silver oak	<i>Grevillea robusta</i>	4
02	Decoration Fox-Tall Palm	<i>Wodyetia bifurcata</i>	4
03	Boganwel	<i>Bougainvillea glabra</i>	10
04	Indian Christmas		4
05	Ashoka	<i>Saraca indica</i>	4
06	Sita Ashok	<i>Saraca ashoka</i>	2
07	Parijatak	<i>Nyctanthes arbor-tristis</i>	2
08	Kewada	<i>Pandanus odorifer</i>	1
09	Chandipat	<i>Tabernaemontana divaricata</i>	1
10	Lavang Plant	<i>Syzygium aromaticum</i>	1
11	Bakul	<i>Mimusops elengi</i>	1
12	Cluster Palm	<i>Caryota mitis</i>	2
13	Costal Palm	<i>Allagoptera arenaria</i>	2
14	Areca Palm	<i>Dypsis lutescens</i>	2
15	Supari Plant	<i>Areca catechu</i>	2
16	Money Plant	<i>Epipremnum aureum</i>	1
17	Morpankhi plant	<i>Platyclus orientalis</i>	2
18	Cycus	<i>Cycas revoluta</i>	1
19	Nilikaticoranti	<i>Barleria prionitis</i>	2
20	Yellow Croton plants	<i>Codiaeum variegatum</i>	2
21	Krushna kamala wel	<i>Passiflora incarnata</i>	1
22	Kardali	<i>Canna indica</i>	1
23	Ixora Pink plants	<i>Ixora javanica</i>	2
24	Tagar white double	<i>Tabernaemontana divaricata</i> Double	2

25	Madhumaltiwel	<i>Combretum indicum</i>	2
26	Iberis Amara white	<i>Iberis amara</i>	2
27	Gaudichaudi (Yellow)	<i>Tecoma Gaudichaudi/Yellow Bells</i>	1
28	Chafa (Red-yellow)	<i>Plumeria obtusa</i>	1
29	Kenna		2
30	Oxycardium, Heart leaf plant	<i>Philodendron hederaceum</i>	1
31	Bottle Palm tree	<i>Hyophorba belagicaulis</i>	4
32	Bonsai Bottle palm with Trunk	<i>Hyophorba belagicaulis (Bonsai)</i>	1
33	Table/ Umbrella palm	<i>Livistona rotundifolia</i>	2
34	Adenium Pink Bonsai	<i>Adenium obesum</i>	2
35	Red Espoma Cactus plants	<i>Espoma Cactus</i>	1
36	Henry's red Rhododendron plant	<i>Rhododendron monrovia</i>	1
37	Ficus Benjamina plant's	<i>Ficus Benjamina</i>	1

Wild plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Bambu	<i>Bambusa vulgaris</i>	4
02	Gajga	<i>Caesalpinia bonduca</i>	2
03	Sheesham	<i>Dalbergia sissoo</i>	4
04	Sagwan	<i>Tectona grandis</i>	4
05	Niltagar		2
06	Tarwat	<i>Peltophorum pterocarpum</i>	5
07	Kadu limb	<i>Azadirachta indica</i>	5
08	Babhul	<i>Vachellia nilotica</i>	2
09	Aapta	<i>Bauhinia racemosa</i>	1

10	Karanj	<i>Millettiapinnata</i>	1
11	Hirda	<i>Terminaliachebula</i>	2
12	Mahogany	<i>swieteniamahagoni</i>	2
13	BhediVruksha	<i>Thespesiapopulnia</i>	2
14	Arjun	<i>Terminaliaarjuna</i>	1
15	English Chich	<i>Pithecellobiumdulce</i>	2
16	Chinch	<i>Tamarindusindica</i>	2
17	Badam	<i>Prunusdulcis</i>	5



## Annexure No1.

### Solid waste collection bins

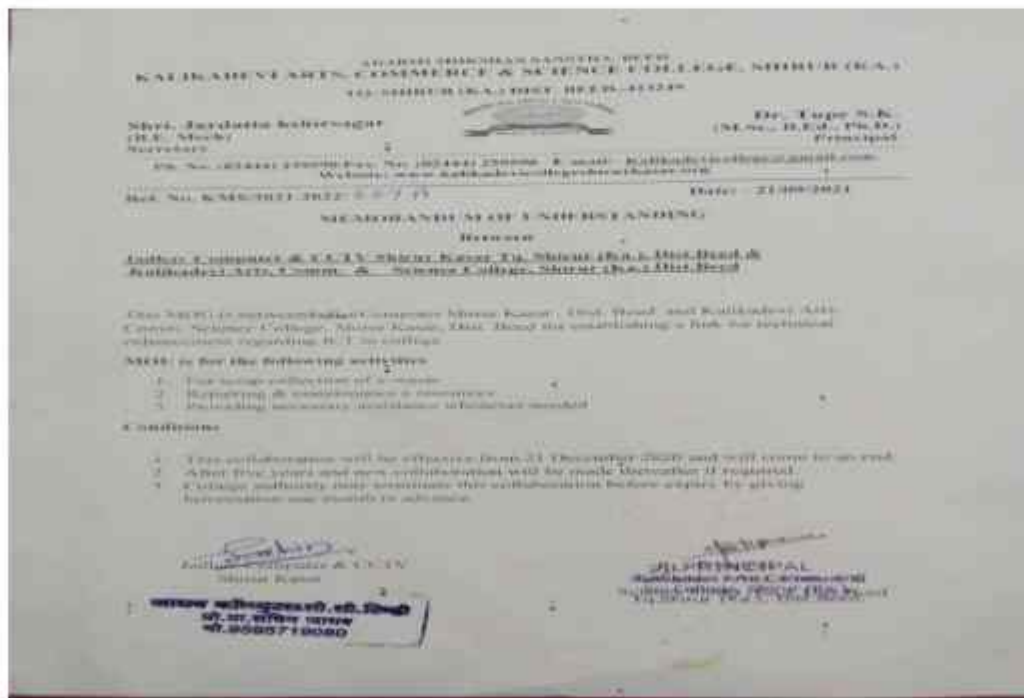


### Solid waste disposal to municipal corporation vehicle





### E-waste management



## Maintenance & cleaning work of water storage tanks





## Annexure 2

### Vermicomposting Pit



## Annexure 3

### Tree Plantation





### Importance of water conservation: Rain water harvesting



## Environment awareness slogans





### Ventillated Classrooms



### Well maintained Laboratories



### Well maintained computer lab



### Annexure 4

### Greenery within Campus













## Medicinal Plants











## Parking Slot



### Audit Participants

#### On behalf of Institute:

Name	Position/Department
Dr. Dr. Gholap P. N.	Principal, Kalikadevi Arts, Commerce and Science College, Shirur Kasar
Dr. Tupe S. K.	Asst. Professor
Dr. Sawate S. R.	Asso. Professor
Dr. Lomte S. B.	Asst. Professor
Mr. Vitthal Tupe	OS

#### On behalf of Aditya Envirotech:

Name	Position	Qualification
Ram Shinde	Lead Auditor	M.Sc. (Environment Science), Lead Auditor ISO 14001:2015,
Suryakant Samant	Co- Auditor	M.Sc. (Environment),



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# **ENERGY MANAGEMENT ASSESSMENT (2022-2023)**



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## 1. Introduction

### COLLEGE INTRODUCTION:

#### **Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar.**

Adarsh Shikshan Sanstha is a rural voluntary service organization. It was established by the contribution of authentic members with the motive of "Social Development" in Taluka Shirur Kasar Dist. Beed state Maharashtra. Kalikadevi Arts, Commerce and Science College Shirur Kasar, run by Adarsh Shikshan Sanstha Beed was established in January 2002 by Honourable late Kesharbai Sonajirao Kshirsagar Alias Kaku (Ex. Member of Parliament), with noble and foresighted vision to provide higher education to youth of rural areas. The College is affiliated to Dr. Babasaheb Ambedkar Marathwada University Aurangabad. The college provides three programs; at UG level i.e. Arts, Commerce and Science and two programs of PG level M.A. English and M.Com. The college has also introduced, Tourism and Service Industries course from academic year 2019-2020. UGC has recognized the institution with 2(f) and 12(B).

The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen; consumer store (Grahak Bhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care centre and competitive examination coaching classes' centre for students of college and other stakeholders. College arranges study tours to places of historical and geographical importance, visits to various study centres, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech events science exhibition etc. Our NSS and Life Long Learning and Extension

department conducts society oriented programmes like blood donation camps, eco-friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy programme etc. Student mentoring system is also available in the college to solve the student's personal and social problems.

With a proper Vision and Mission we, as an Institute are striving to give quality Education, Ethics and Morals to our students and looking forward to give as much as we can.

## **1. COLLEGE VISION & MISSION:**

### **VISION**

**The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development of self and society..**

### **MISSION**

- To mentor and inculcate social moral values in students and empower them towards nation building activity.
- To cultivate feeling of social bonding and development among students through different intervention and entrepreneurship program of college.
- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform student to feel free to point out their problems general drawbacks and limitations.

### **1.1 OBJECTIVE OF THE COLLEGE:**

Following are the objectives of the college:

- To Improve Satisfaction And Engagement Level Of Students
- To Promote Use Of ICT For Formal And Informal Education.
- To Equip Students With Participatory And Partnership Role In Higher Education.



- To Inculcate Team Spirit And Provide Environment To Work As A Team With Right Efforts Avoiding Evil Thoughts.
- To Bring About Improvement In Teaching Learning Process And Promote Research Environment Among Faculty And Students.

## **1.2 Perspective Plan**

- To Establish MOUs and Linkages with National and International Institutes.
- To Submit Minor/Major Projects to UGC and Other Funding Agencies.
- To Develop Smart Class Rooms.
- To Introduce Vocational And Skill Based Add On Courses.
- To Develop Green Campus.
- To Increase Student Placement Rate.
- To Organize National / International Seminar / Conference.
- To Introduce PG Courses In Science Faculty.

Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar. demonstrates its commitment to implement sustainable solutions in different ways. It has taken a number of positive steps to reduce possible environmental impact. The management is keen on accepting new ideas of resource management.

This report can be a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects." In view of making green and eco-friendly campus the organization has taken an important step to understand the environmental parameters within the campus. This report serves to highlight, the efforts towards



greener campus. The first step taken in this direction is establishing a baseline of existing condition.

An energy audit is an inspection and analysis of energy flows in a building with the objective of understanding the energy efficiency of building being audited. Typically, an energy audit is conducted to seek opportunities to reduce the amount of energy used by the facility without negatively affecting the comfort of the facility or the production/output in case of a business. This includes identifying the systems and areas of opportunity that will have the greatest impact in improving comfort, indoor air quality, durability & reliability.

## 2.1 Campus planning and construction

### Energy Conservation

The college campus has planned in 10119.19 Sq. meters quite significantly that, there is enough open space, greenery, playground and 14 ventilated spacious classrooms and 1 seminar hall to accommodate students. The build-up area is 3259.76 Sq. Meters. The energy utilization pattern of college on any working day is as follows:-

### Instructional Area:

SN	Room Type (Mention Class Room/ Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification and Lighting
1	Classrooms	Yes	Yes	Yes
2	Seminar Hall	Yes	Yes	Yes
3	Laboratory Physics	Yes	Yes	Yes
4	Laboratory Chemistry	Yes	Yes	Yes
5	Laboratory Botany	Yes	Yes	Yes
6	Laboratory Math's	Yes	Yes	Yes
7	Laboratory Computer	Yes	Yes	Yes
8	Laboratory Zoology	Yes	Yes	Yes
9	Laboratory Home science	Yes	Yes	Yes
10	Sport Department	Yes	Yes	Yes
11	Examination department	Yes	Yes	Yes

**Administrative area:**

SN	Room Type (Mention Class Room/ Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Central Store	Yes	Yes	Yes
2	Faculty Room	Yes	Yes	Yes
3	Security	Yes	Yes	Yes
4	Cabin for Head of Dept	Yes	Yes	Yes
5	Office All Inclusive	Yes	Yes	Yes

**Amenities area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Canteen	Yes	Yes	Yes
2	Girls Common Room	Yes	Yes	Yes
3	Boys Common Room	Yes	Yes	Yes
4	Toilet	Yes	Yes	Yes
5	Internal complaint committee & Health care centre	Yes	Yes	Yes
6	Sport Auditorium	Yes	Yes	Yes
7	Seminar hall	Yes	Yes	Yes

**Circulation Area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Corridors	Yes	Yes	Yes
2	Staircases	Yes	Yes	Yes

## Electricity utilization pattern

Energy Utilization Places	Appliances with approximate Quantity	Approximate Total Consumption
Classroom, Laboratories, Computer laboratories & all Departments, Conference Hall, Administrative Office, Principal Office, Auditorium, Board Room, Examination Department, Boys & Girls Common Room, Library etc.	AC - , Fan-62, Tube light – 45, LED Bulb – 38, Corridors & Common area lights -10, Computers -43, Printers - 8, Server – 1, Xerox machine - 1, Scanner - 4, Projector - 1, Refrigerator- 01, Auto clave- , Microwave Oven-, water Purifier - 01, Water Cooler- 01, Water Pumps -01, CCTV – 8,	Monthly avg. power Req. = 800-1100 Kwh Avg.

### Action:

- 1) Height and size of the windows in classrooms provide adequate ventilation. There is no heat trapping mechanism and glare due to excessive use of glass in the campus.
- 2) There is less construction cost due to well-designed structure. Interaction space for the students is maintained, thus utilizing the optimum space.
- 3) There is consideration for disaster management.
- 4) Strictly turning of monitors, fan, tube lights, and laboratory instruments after the work.
- 5) Organizing lectures on energy conservation in order to give awareness to the students.
- 6) Perhaps the most significant improvement has been the general switch from CRT (cathode ray tube) monitors to LED (Light Emitting Diode display)/flat panel display monitors. This change occurred in response as an initiative for meeting Kyoto Protocol standards. Although over twice as expensive up front, LCD monitors are estimated to use 40-60% less energy overall than CRTs.



- 1) All computers purchased by the college have an Energy Star rating, which is beginning to be a standard requirement for computers.
- 2) Solar unit installation is in plan, step towards use of renewable energy.
- 3) All tubes and bulbs being used of LED types
- 4) Due to ample cross ventilation and windows there is very less electricity consumption during day time.

**Conclusion:**

The findings of this report show that the college performs fairly well on sustainability issues. The college does consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. In conversations with faculty, staff, and administration at the college, A policy to minimum possible use of energy to sustain environment has been decided.

**Energy efficiency is the need of future.** ... The organization shows a potential to become energy efficient institution, which can be collective step toward the direction of renewable energy, environmental protection, and sustainable living. Having such an organization helps management reduce their bills and provides an excellent investment.

**Suggestion:**

Routine energy auditing will help organization to

- (i) Map energy usage within the organization
- (ii) Conserve energy,
- (iii) Improve energy efficiency and thereby
- (iv) Maximize their institutional energy and cost savings.

## **Energy Policy**

Adarsh Shikshan Sanstha Beed's, Kalikadevi Arts, Commerce and Science College, Shirur Kasar is dedicated to the responsible and sustainable consumption of energy.

We dedicated ourselves for

- Reduction of energy use in the premises.
- Reduction of dependability on exterior energy sources.
- Reduction of environmental damage and pollution.
- Reduction of damage to the environment associated with the exploitation of resources
- Reduction of energy bills.
- Increase the life span of the equipment in college premises.
- Increase in cost-effectiveness through optimization of energy expenditure

# ENERGY MANAGEMENT ASSESSMENT (2021-2022)



**ADARSH SHIKSHAN SANSTHA BEED'S,  
KALIKADEVI ARTS, COMMERCE AND  
SCIENCE COLLEGE,  
SHIRURKASAR. TQ- SHIRUR(KA), DIST- BEED,  
MAHARASHTRA.**

(Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.))



## 1. Introduction

### COLLEGE INTRODUCTION:

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The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen; consumer store (GrahakBhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care center and competitive examination coaching classes' center for students of college and other stakeholders. College arranges study tours to places of historical and geographical importance, visits to various study centers, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech

events science exhibition etc. The NSS and Life Long Learning and Extension department conducts society-oriented programs like blood donation camps, eco-friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy program etc. Student mentoring system is also available in the college to solve the student's personal and social problems.

College has achieved Best NSS Unit Award and Best NSS Program Officer Award twice. College had portrayed Kerala Flood Disaster for Road Rally in Central Youth Festival of Dr. Babasaheb Ambedkar Marathwada University Aurangabad and acquired 1st Prize for it for academic year 2018-2019. Also, College got 3rd Prize in the same event for academic year 2019-2020 by portraying Pulvama Attack Event. Other than that, faculty members had also received awards in different fields of education.

With a proper Vision and Mission, we, as an Institute are striving to give quality Education, Ethics and Morals to students and looking forward to give as much as they can.

## **1. COLLEGE VISION & MISSION:**

### **VISION**

"The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development of self and society.."

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- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform for students to feel free to point out their problems, general drawbacks and limitations.

## **1.1 Goals and Objectives of Perspective Plan**

Considering the SWOC analysis of the college they are trying their best to overcome the weakness and challenges and generate new opportunities for college and student development by imparting quality and innovative education in Arts, Commerce and Science field and fulfill their Motto. For this IQAC has identified the following perspective plan:

### **Short Term Goals**

- To uphold continuous academic performance;
- To inculcate offline and online effective teaching learning process.
- To make more transparent and credible process of students' evaluation.
- To develop student mentoring system more effective.
- To enhance innovative research culture in faculty and students.
- To launch value added and skills development programs improving the employability of students.
- To motivate students for self-employment and to enable them to emerge as entrepreneurs.
- To make faculty powerful for emerging trends.
- To organize necessary trainings and workshops for Non-teaching staff members.

### **Long Term Goals**

- To Establish MOUs and Linkages with National and International Institutes.
- To Submit Minor/Major Projects to UGC and Other Funding Agencies.
- To develop more Smart Class Rooms.
- To Introduce Vocational And Skill Based Add On Courses.
- To Develop Green Campus.
- To Increase Student Placement Rate.
- To organize offline National / International Seminars/Conferences/Workshops/Symposia
- To introduce new PG Courses.
- To augment Library management and office administrative system and make it fully computerized and library space and resources to be increased.



## 1.2 Perspective Plan

- MOUs and linkages will be established on institutional and department level with the institutes of National and International level.
- Staff members will be motivated to submit Major and Minor Research Projects to UGC and other funding agencies.
- Steps will be taken to build up more ICT facilities in college.
- Measures will be taken to introduce new B.Voc and Certificate courses.
- Green/Environment and Energy Audit of campus will be conducted on regular intervals.
- Placements will be organized for students by inviting reputed companies.
- Proposals for offline National and International Seminars/ Conferences and Workshops will be submitted to different funding agencies and University.
- Essential software will be purchased to make office and library more efficient.

KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE, ShirurKasar. demonstrates its commitment to implement sustainable solutions in different ways. It has taken a number of positive steps to reduce possible environmental impact. The management is keen on accepting new ideas of resource management.

This report can be a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects.” In view of making green and eco-friendly campus the organization has taken an important step to understand the environmental parameters within the campus. This report serves to highlight, the efforts towards greener campus. The first step taken in this direction is establishing a baseline of existing condition.

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## 2.1 Campus planning and construction

### Energy Conservation

The college campus has planned in 10119.19 Sqm. quite significantly that, there is enough open space, greenery, playground total and 16 ventilated spacious classrooms, 1 sport auditorium and 1 seminar halls to accommodate students. The build-up area is 3259.76 Sqm. The energy utilization pattern of college on any working day is as follows.

### Instructional Area:

SN	Room Type (Mention Class Room/ Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification and Lighting
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**Amenities area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Canteen	Yes	Yes	Yes
2	Girls Common Room	Yes	Yes	Yes
	Boys Common Room	Yes	Yes	Yes
3	Toilet	Yes	Yes	Yes
4	First aid cum Sick Room	Yes	Yes	Yes
5	Sport Auditorium	Yes	Yes	Yes
6	Seminar hall	Yes	Yes	Yes

**Circulation Area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Corridors	Yes	Yes	Yes
2	Staircases	Yes	Yes	Yes

**Electricity utilization pattern**

Activity	Utilization
Classroom - 16, Departments – 9, Laboratories – 5, Computer lab & all Departments, Admin block,	AC - , Fan-49, Wall fan -0, LED Tube light – 45, LED bulb – 38, Corridors & Common area lights - 10, Computers - 43, Printers - 8, Server – 1,



Principal office etc., Auditorium, Exam Section, Boys & Girls common room, Sick room, Library etc.	Xerox machine - 1, Scanner - 4, Projector - 1, Refrigerator- 1, Auto clave-, Microwave-, water Purifier - 1, Water Cooler - 1, Water Pumps - 1, CCTV – 8,
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S.No	Activity	Utilization	Total units/day Approx.
1	Classroom 16	1 Tubes, 1 Fans, /class	2 units approximately
2	Departments - 9	1 Tubes, 1 Fans, 1 computer/department + printer, Xerox machine	2 units approximately
3	Laboratories - 5	Laboratory instruments: Hot air oven-, Centrifuge-1, Incubator-, Hot plate- 1, Exhaust fan-1 , Fridge- 1 printer	3 units approximately
4	Computer lab	Computers-28, server-1, UPS, Printer-6, Projector-1 , Inverter Batteries- etc.	6 units approximately
5	Admin block	Tubes, Fans, /section + computer-2, printer-2, Inverter- 4, Xerox machine-1, Inverter Batteries- 4	3 units approximately
6	Water supply pumps, water cooler, bore-well water filter, CCTV-8, Common lights	Pumping and circulation water in the campus	4 units approximately
			<b>19 units approximately</b>

#### Action:

- 1) As per the structure of the building the chemistry laboratories are placed in such a way that hazardous fume discharges outside the building.
- 2) Height and size of the windows in classrooms and laboratories provide adequate ventilation. There is no heat trapping mechanism and glare due to excessive use of glass in the campus.
- 3) There is less construction cost due to well-designed structure. Interaction space for the students is maintained, thus utilizing the optimum space.
- 4) There is consideration for disaster management.

5) Strictly turning off monitors, fan, tube lights, and laboratory instruments after the work.

6) Organizing lectures on energy conservation in order to give awareness to the students.

7) Perhaps the most significant improvement has been the general switch from CRT (cathode ray tube) monitors to LED (Light Emitting Diode display)/flat panel display monitors. This change occurred in response as an initiative for meeting Kyoto Protocol standards. Although over twice as expensive up front, LCD monitors are estimated to use 40-60% less energy overall than CRTs.

- 1) All computers purchased by the college have an Energy Star rating, which is beginning to be a standard requirement for computers. Retired computers and other equipment are sent to e-storage room and then it is collected by vendor.
- 2) During practice session for computer course the printouts being taken on one sided used paper.
- 3) All tubes and bulbs being used of LED types
- 4) Due to ample cross ventilation and windows, there is very less electricity consumption during day time.
- 5) Newly installed street solar lamp on experimental basis.
- 6) Action towards Solar Unit installation.

### **Conclusion:**

The findings of this report show that the college performs fairly well on sustainability issues. The college does consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. In conversations with faculty, staff, and administration at the college, a major

there has been the improvements made over the last many years in how the college performs environmentally.

**Energy efficiency is the need of future.** The organization shows a potential to become energy efficient institution, which can be collective step toward the direction of renewable energy, environmental protection, and sustainable living. Having such an organization helps management reduce their bills and provides an excellent investment.

**Suggestion:**

Routine energy auditing will help organization to

- (i) Map energy usage within the organization
- (ii) Conserve energy,
- (iii) Improve energy efficiency and thereby
- (iv) Maximize their institutional energy and cost savings.

**Annexure**

**Energy Policy**

KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE is dedicated to the responsible and sustainable consumption of energy. We dedicated ourselves for

- Reduction of energy costs in the premises.
- Reduction of dependability on exterior energy sources.
- Reduction of environmental damage and pollution.
- Reduction of damage to the environment associated with the exploitation of resources
- Reduction of energy bills.
- Increase the life span of the equipment in college premises.
- Increase in cost-effectiveness through optimization of energy expenditure



# ENVIRONMENT AUDIT REPORT



**Adarsh Shikshan Sanstha Beed's,  
KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE,  
Shirur Kasar. Tq- Shirur(Ka), Dist- Beed, Maharashtra.**

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## 10 ACKNOWLEDGEMENT

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Aditya Envirotech Green Audit Team thanks the management of **Kalikadevi Arts, Commerce and Science College, ShirurKasar** for assigning this important work of Green Audit (Environmental Audit). We appreciate the co-operation to our team for completion of study.

Our special thanks are due to:

- Principal of the college – Dr. Dr. Vishwas S. Kandhare.
- IQAC Coordinator, Assistant Professor– Dr. C.V. Donglikar
- Green Audit coordinator, Assistant professor– Dr. Dr. P.N.Gholap
- IQAC Member, Assistant professor– Dr. Lomte S. B.
- Teaching & Supporting Staff of College

For giving us necessary inputs to carry out this very vital exercise of Green Audit (Environment Audit). We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.



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## 2.0 DISCLAIMER

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Aditya Envirotech Green Audit/Environment Audit Team has prepared this report for **Kalikadevi Arts, Commerce and Science College, Shirur Kasar** based on input data submitted by the representatives of college complemented with the best judgment capacity of the expert team.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

If you wish to distribute copies of this report external to your organization, then all pages must be included.

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**Report by: Ram Shinde, Lead Auditor**

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## 3.0 CONTEXT

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We are committed as a component of Corporate Social Responsibility of the Higher Edifying Institutions to ascertain that they contribute towards the minimization of ecumenical warming through Carbon Footprint abbreviation measures.

KACS College Management decided to conduct an external Green Evaluation by a competent Green Auditor along with a Green Audit Assessment Team headed by Dr. Gholap P. N., **KACS College, Shirur Kasar.**

Green Audit or Environment Audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the College Management. The concept, structure, objectives, methodology, tools of analysis, objectives of the audit are mentioned below.

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## 4.0 CONCEPT

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The term 'Environmental audit' or 'Green audit' means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations/Institutions believe that an 'environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Green Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:

*"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."*

The outcome of Green Audit should be established with concrete evidence that the measures undertaken and facilities in the institution under green auditing.

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## 5.0 INTRODUCTION

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A Nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with environment. Educational institutions now a days are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc. The activities pursued by colleges can also create a variety of adverse environmental impacts.

Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. Green audit is defined as an official examination of the effects a college has on the environment. As a part of such practice, internal environmental audit (Green Audit) is conducted to evaluate the actual scenario at the campus. Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. Green auditing and the implementation of mitigation measures is a win-win situation for all the college, the learners and the planet. It can also create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus.

Green auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues.



Environmental Management Systems (EMS) is very popular in the industrial sector, but the general belief is that EMS is something pertaining to industries only. Other parts of the world have started adopting compatible environmental management systems either voluntarily or for promoting standards by external certification. International environmental standards do not suit the existing Indian educational system. Hence Aditya envirotech has developed a compatible system by developing locally-applicable techniques.



A very simple indigenized system has been devised to monitor the environmental performance of educational institutions. It comes with a series of questions to be answered on a regular basis. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without stress on legal issues or compliance. This innovative scheme is user-friendly and totally voluntary. The environmental monitoring system helps the institution to set environmental examples

for the community and to educate young learners. It can be adapted to urban and / or rural situations.

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## 6.0 OVERVIEW OF INSTITUTE

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Adarsh Shikshan Sanstha is a rural voluntary service organization. It was established by the contribution of authentic members with the motive of “Social Development” in Taluka- Shirur Kasar Dist. Beed state Maharashtra. Kalikadevi Arts, Commerce and Science College, Shirur Kasar, run by Adarsh Shikshan Sanstha, Beed was established in January 2002 by Honorable late Kesharbai Sonajirao Kshirsagar Alias Kaku (Ex. Member of Parliament), with noble and foresighted vision to provide higher education to youth of rural areas. The College is affiliated to Dr. Babasaheb Ambedkar Marathwada University Aurangabad. The college provides three programs; at UG level i.e., Arts, Commerce and Science and two programs of PG level M.A. English and M.Com. The college has also introduced, Tourism and Service Industries course from academic year 2020-2021. UGC has recognized the institution with 2(f) and 12(B).

The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen; consumer store (Grahak Bhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care center and competitive examination coaching classes’ center for students of college and other stakeholders.

College arranges study tours to places of historical and geographical importance, visits to various study centers, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech events science exhibition etc. Our NSS and Life Long Learning and Extension department conducts society-oriented programs like blood donation camps, eco-friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy program etc. Student mentoring system is also available in the college to solve the student’s personal and social problems.

College has achieved Best NSS Unit Award and Best NSS Program Officer Award twice. Our college had portrayed Kerala Flood Disaster for Road Rally in Central Youth Festival of Dr.



Babasaheb Ambedkar Marathwada University Aurangabad and acquired 1<sup>st</sup> Prize for it for academic year 2018-2019. Also, College got III<sup>rd</sup> Prize in the same event for academic year 2019-2020 by portraying Pulvama Attack Event. Other than that, our faculty members had also received awards in different fields of education.

With a proper Vision and Mission, we, as an Institute are striving to give quality Education, Ethics and Morals to our students and looking forward to give as much as possible.



### **The Vision**

The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development or self and society.

### **The Mission**

- To mentor and inculcate social moral values in students and empower them towards a nation building activity.
- To cultivate feeling of social bonding and development among students through different intervention and entrepreneurship program of college.
- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform for students to feel free to point out their problems, general drawbacks and limitations



**Institutional development plan:**

To Establish MOUs and Linkages with National and International Institutes.

- To motivate students to complete online courses on the platforms like NPTEL, SWAYAM, E-PG Pathashala and other similar courses.
- To Submit Minor/Major Projects to UGC and Other Funding Agencies.
- To introduce academic programs offering multiple entry and exit
- To develop more Smart Class Rooms.
- To Develop Green Campus.
- To Increase Student Placement Rate.
- To augment Library management and office administrative system and make it fully computerized and library space and resources to be increased

**Long Term Institutional Development Plan for Next Twenty Years**

- To introduce more PG Courses.
- To Introduce Vocational and Skill Based Add On Courses
- To develop infrastructure facilities to augment courses on e-content development.
- To Introduce English Language lab
- To Introduce Industry need based UG programs for facilitating students for industry employment opportunities.
- To create "KULPATI GHAN VAN YOJANA"
- To create "Atal Ghan Van Yojana" in nearby villages.
- Adoption of villages for environment conservation
- To create linkages with industries for entrepreneurship development in self-help-group women

**Geographical Description of the area –**

Beed is situated in the Deccan black basalt stone, ranges of Balaghat that constitutes main rang from Ahmednagar in the west, to the border of district Beed in the East. This range divides the district into two parts. The plain area in the north is called as Gangathadi (bank of Ganga-Godavari) and the higher part is called as Ghat at Balaghat. Many hills exceed 2500 feet mark from the sea level. Balabhat range is found in between heights of 2000 and 2200 feet, whereas the plain is called Gangathadi and it has the heights between 1200 and 1500 feet from the sea level.

ShirurKasar is a Tehsil in the Beed subdivision of the Beed district, in the Indian state of

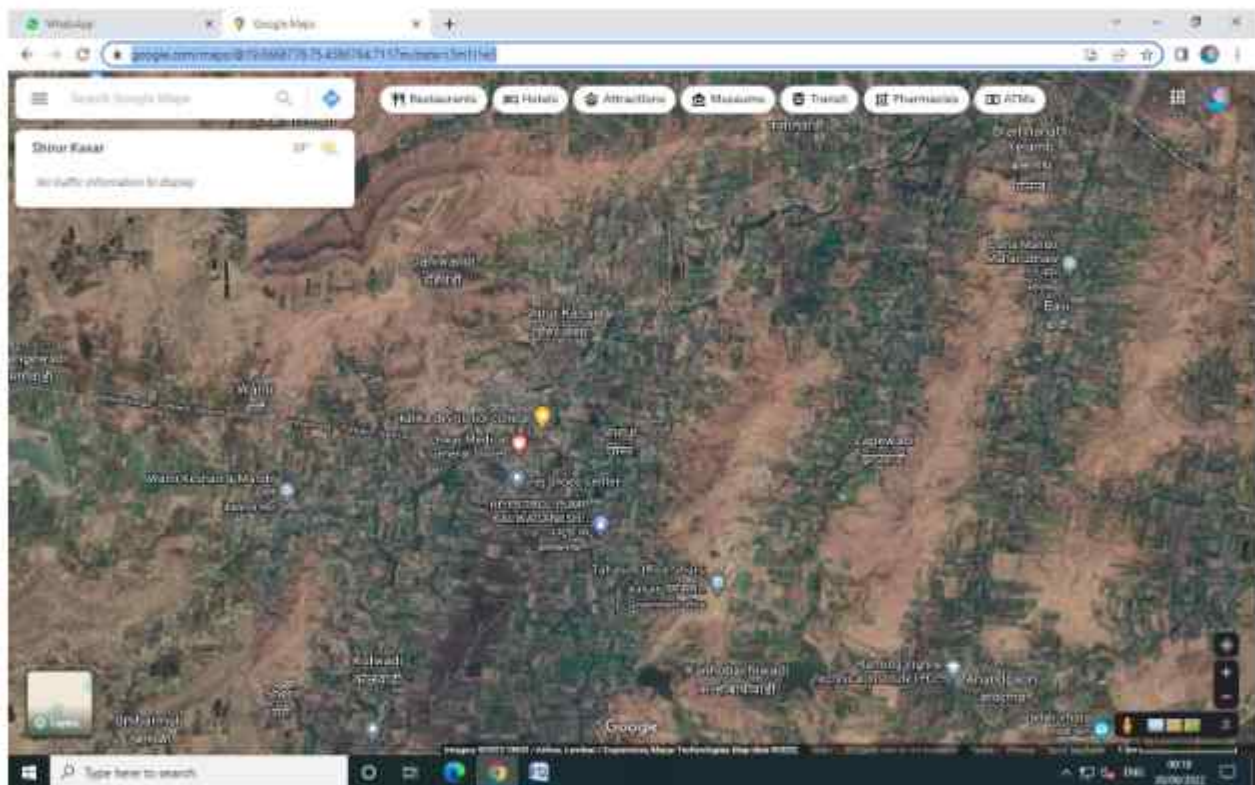
Maharashtra. The town is situated on the southern bank of the river Sindafana, a tributary of the Godavari River. Shirur Kasar obtained Tehsil status in 1999. Prior to that it was part of the Tehsil Patoda, which is also a subdivision of the Beed district.

Rainfall-

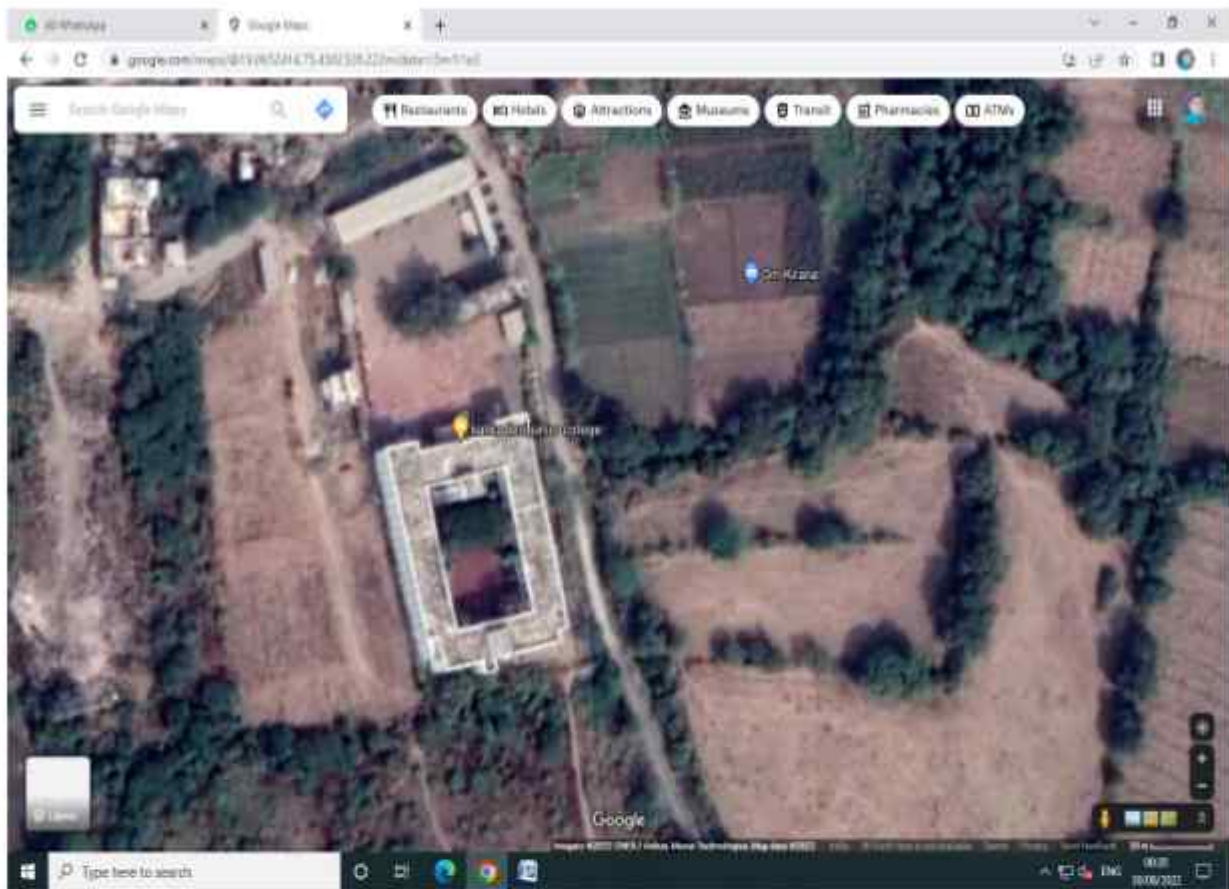
Shirurkasar tehsil is situated in draught prone area of Maharashtra in the Balaghat mountain ranges. In Shirur Kasar Tehsil the average annual temperature is 25.40C and the average rainfall is 498 mm

Geographical Location—

Shirur Kasar is one of the important Tehsil in Beed District. In Beed District total number of Tehsil is 11 in that Shirur Kasar is made in 1999 divided from Patoda Tehsil. Total population of ShirurKasar is 128583. There are 26642 houses in the Tehsil. Geographically Shirur Kasar tehsil is located between 1904, 30, N latitude and 75045, 54, E Longitude







**Total Campus area:**

Sr. No.	Specification	Information
1	Total Campus Area	10119.19 SQ.M
2	Build Area	3259.76 SQ.M
3	Total Number of Classrooms	16
4	Total Toilets Western / Indian	3+1
5	Total Urinals	12
6	Total Water Coolers With Capacity	--
7	Monthly Electric Bill	Average 8000/-
8	Water Quantity	Sufficient
9	Quality Analysis	Drinkable



**KACS College imparts education to Under graduates and Post graduate students in the following Departments:**

**Under Graduate-**

- Department of English
- Department of Marathi
- Department of Hindi
- Department of Pub-Admin
- Department of Economics
- Department of Pol-Science
- Department of Sociology
- Department of History
- Department of Home Science
- Department of Geography
- Department of Physical Education
- Department of Botany
- Department of Zoology
- Department of Chemistry
- Department of Physics
- Department of Mathematics
- Department of Commerce
- Department of YCMOU

**Post-Graduation-**

- M.A. English
- M.Com

**COURSE OFFERED**

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**B. Voc Courses in KACS (NSQF Level- 7 Certification)**

- Travels and Tourism Course

## 7.0 OBJECTIVES AND SCOPE

The broad aims/benefits of the eco-auditing system would be

- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the College campus and its environment
- Enhancement of College profile
- Developing an environmental ethic and value systems in young people

## 8.0 AUDIT PARTICIPANTS

On behalf of Institute:

Name	Position/Department
Dr. Vishwas S. Kandhare	Principal, KACS College
Dr. Gholap P. N.	Chairman (Environment Committee), KACS College
Dr. Sawate S. R.	Assoc. Professor–Member (Environment Committee)
Dr. Lomte S. B.	Assistant Professor –Member (Environment Committee)
Mr. Vithal Tupe	Non- teaching staff

On behalf of Aditya Envirotech:

Name	Position	Qualification
Mr. R. S. Shinde	Lead Auditor	M.Sc. (Environment Sc.),
Mr. Suryakant Samant	Co-Auditor	M.Sc. (Environment sc.)

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## 9.0 EXECUTIVE SUMMARY

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An environmental audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes outdated unless there is some mechanism in place to continue the effort of monitoring environmental compliance.

KACS already done internal green assessment and annual reports published for continual improvements; QS Programme and doing their bid towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.

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## 10.0 AREAS OF IMPROVEMENT

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- Environment Policy to be adopted by the College Campus.
- The roof area shows potential for rain water harvesting.
- Maintain the inventory of ground water extraction resource bore well.
- Storage of chemicals like; paints, gums resins, oils, lubricants, acids etc. in designated place and safety/warning signs should be displayed.
- Internal inspection system should be developed for various aspects of environment available in campus
- Continue working towards composting the post-consumer food waste generated by the dining halls.
- Encourage student project on environmental footprint for College.



## 11.0 ENVIRONMENTAL AUDIT - QUESTIONNAIRE

The areas of eco/environmental/green auditing to be followed/practiced by participating institutions:

- 11.1.1 Waste Minimization and Recycling
- 11.1.2 Greening
- 11.1.3 Energy Conservation
- 11.1.4 Water Conservation
- 11.1.5 Clean Air
- 11.1.6 Animal Welfare
- 11.1.7 Environmental Legislative
- 11.1.8 General Practices

### Does any Environmental Audit conducted earlier?

The college has conducted the internal Green Audit of KACS. The Annual reports records reviewed during the audit, Main focus of this is to bring awareness of environmental values in students and society. Now, the external audit for environment is awarded to Aditya envirotech for a systematic way of monitoring the environmental eminence initiative, taken by college for environment protection.

### What is the total permanent population of the Institute?

	Male	Female	Total
<b>Students</b>	466	286	<b>752</b>
<b>Teachers</b>	27	3	<b>30</b>
<b>Non-Teaching Staff</b>	16	--	<b>16</b>
<b>Sub Total</b>	509	289	<b>798</b>
<b>Approximate Number of Visitors (Per day)</b>			<b>15</b>
<b>What is the total number of working days of your campus in a year?</b>			<b>180</b>

Note: \* The futuristic recruitments included in total population (Teaching Staff # 11; Non-Teaching Staff # 04)

### Where is the campus located?

The campus is Located in Shirur Kasar, Dist-Beed.

### Which of the following are available in your institute?

1 Garden area	Available
2 Play ground	Available
3 Kitchen	Available
4 Toilets	Available
5 Garbage Or Waste Store Yard	Available
6 Laboratory	Available
7 Canteen	Available
8 Hostel Facility (numbers)	Not Available
9 Guest House	Not Available

### Which of the following are found near your institute?

1 Municipal dump yard	Not in vicinity of institute
2 Garbage heap	No Garbage heaps
3 Public convenience	Yes
4 Sewer line	1 km sewer line within campus
5 Stagnant water	No stagnant water
6 Open drainage	No
7 Industry – (Mention the type)	No
8 Bus / Railway station	Faraway from campus
9 Public halls	Yes

## 11.1 WASTE MINIMIZATION AND RECYCLING

<p>1. Does your institute generate any waste? If so, what are they?</p>	<p>Yes, Solid waste, Canteen waste, paper waste, plastic waste, toiletry waste, Horticulture Waste, etc.</p>			
<p>2. What is the approximate amount of waste generated per day? (In Kilograms/Day) (approx.)</p>	<p>Bio Degradable 12 kg</p>	<p>Non-Biodegradable 1 kg</p>	<p>Hazardous &lt;0.5kg</p>	<p>others &lt;1kg</p>
<p>3. How is the waste generated in the institute managed? By</p> <ol style="list-style-type: none"> <li>1 Composting</li> <li>2 Recycling</li> <li>3 Reusing</li> <li>4 Others (specify)</li> </ol>	<p>For Solid Waste Management One in 72 sq ft Dual Bio composting Tumbler is prepared on back side of the college campus, Reuse of one side printed Paper for internal communication. Sewage water is discharged to public Sewer. Domestic Waste is given to Municipal Corporation. Waste bins are provided at campus for biodegradable and non-biodegradable waste. Vermicompost Bed is built for Horticulture waste. Incinerator is used for managing sanitary waste.</p>			
<p>4. Do you use recycled paper in institute?</p>	<p>Yes, in academic evaluation works</p>			
<p>5. Do you use reused paper in institute?</p>	<p>Yes</p>			
<p>6. How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.</p>	<p>Yes, KCACS carried out numerous activities. Recycling campaigns, e waste management, Anti-plastic campaigns, Vriksharopan, sustainable goal awareness programme.</p>			
<p>7. Can you achieve zero garbage in your institute? If yes, how?</p>	<p>Yes, as per new waste management rules all kind of waste is managed in an adequate manner without any deviation.</p>			



## 11.2 GREENING THE CAMPUS

8.	Is there a garden in your institute?	Yes, about 1 Acre is the Green Area.	
9.	Do students spend time in the garden?	2-4 Hours during working days	
10.	Total number of Plants in Campus	Plant type	Approx. number
		Trees	More than 173
		Shrubs	More than 200
		Grass Cover	1 Acre
11.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	Ashoka, Ficus Religeosa, Boganvella, Alovera, Azadirachta indica , and many more as per geographical regime.	
12.	Is the College campus have any Horticulture Department	Yes	
	Number of Staff working in Horticulture Department	Two Gardeners	
13.	Number of Tree Plantation Drives organized by college per annum. (If Any)	Yes, One Tree Plantation Drives are Organized Annually. 30+ trees and 50+ shrubs planted in this financial year.	
14.	Number of Trees Planted in Last FY.	30	
	Survival Rate	90%	
15.	Plant Distribution Program for Students and Community	Yes, Seed Bank is developed and, Saplings are distributed to Students and visitors at various Occasions.	
16	Plant Ownership Program	No	

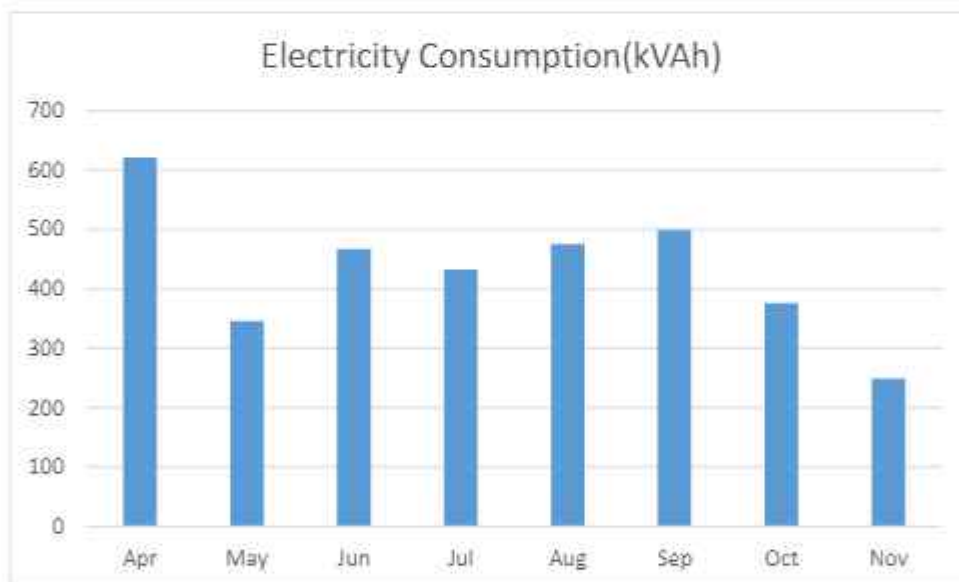
### 11.3 ENERGY

17.	List few ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.	Electricity is saved by use of LED bulbs for illumination, LPG is saved by use of Pressure cookers for cooking food. Alternate source of energy, Solar installation in plan.
18.	Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some	No, Messages will be displayed at various locations to aware the People about Energy Savings. Use of Natural Lights and Natural Ventilation is promoted.
19.	How many CFL/LED bulbs has your institute installed?	70 % of Total Conventional bulbs are replaced by LED Lights.
20.	Are any alternative energy sources employed / installed in your institute? (Photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	No, Solar installation in plan.
21.	Do you run "switch off" drills at institute?	Yes
22.	Are your computers and other equipment's put on power-saving mode?	Yes, In Practice
23.	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?	No

Table showed the power consumption details of last year

S.No	Month	Electricity Consumption (KVAH)
1	Aug	621
2	Sep	346
3	Oct	467
4	Nov	433
5	Dec	476
6	Jan	499
7	Feb	376
8	Mar	249

Energy consumption trend is in accordance with electricity readings captured by MSEDCL with Bill consumer No. 587710276251, Bill Cycle Apr 2021 to Nov 2021.





#### 11.4 WATER CONSERVATION

24.	List uses of water in your institute	Basic usage of water in campus are; Drinking, Gardening, Kitchen & Toilets, and Others. And total consumption is 450.00 KL/month
25.	How does your institute store water? Are there any water saving techniques followed in your institute?	Avoid overflow of water-controlled valves are provided in water supply system.
26.	If there is water wastage, specify why and How can the wastage be prevented / stopped?	No
27.	Locate the point of entry of water and point of exit of waste water in your institute.	Entry- Water comes from Borewell watersupply at campus Exit- From Water Drainage System to the back gate of campus
28.	Write down few ways that could reduce the amount of water used in your institute	By Following ways: 1. Close the taps after usage 2. Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage 3. Water Conservation awareness for new students
29.	Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many liters of water have been used.	Not available
30.	Does your institute harvest rain water?	The rain water that is collected in ground of college campus is diverted towards percolation tank. Through underground Pipe line system, it recharges the bore well in the campus

31.	Is there any water recycling System.	No.
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### 11.5 CLEAN AIR

32	Are the Rooms in Campus are Well Ventilated?	Yes				
33	Window Floor ratio of the Rooms	Very Good				
34	Provide details of school-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	--	--	--	--	--
	No. of vehicles more than five years old	--	--	--	--	--
	No. of Air conditioned vehicles	--	--	--	--	--
	PUC done	--	--	--	--	--
35	Specify the type of fuel used by your school's vehicles:	Total				
	Diesel			--		
	Petrol			--		
	CNG			--		
	LPG			--		
	Electric			--		
36	Air Quality Monitoring Program (If Any)	No monitoring is being done				
37	Students suffer from respiratory ailments? (If Any)	No				
38	Details of Genset	No				

## 11.6 ANIMAL WELFARE

39	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	More than 50 Squirrels are found in the campus, Approx. 2 cats and others including butterflies, insects, bees, earthworms, etc. are there in campus.
40	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	Not required
41	Does your institute have a Biodiversity Programme?	Yes

## 11.7 ENVIRONMENTAL LEGISLATIVE COMPLIANCE

42	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
43	Does your institute have any rules to protect the environment? List possible rules you could include.	They have banned single use plastic. Their environment policy includes awareness, and environmental conservation efforts through KACS and Department of Environmental Sciences. All under graduates are studying the paper of Environmental Sciences, prescribed by UGC.
44	Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	NA
45	Does Water and Wastewater Quality monitoring conducted by the Institute?	NA
46	Does stack monitoring of DG sets conducted by the Institute?	NA
47	Is any warning notice, letter issued by state government bodies?	No



48	Does any Hazardous waste generated by the Institute?	No
49	Does any Bio medical waste generated by the Institute? If yes explain its category and disposal method	No

## 11.8 GENERAL

50	Are you aware of any environmental Laws pertaining to different aspects of Environmental management?	Yes
51	Does your institute have any rules to protect the environment? List possible rules you could include.	Yes, there are some rules like e banned single use plastic. Their Environmental Policy includes awareness and Environmental conservation.
52	Does housekeeping schedule in your campus?	Yes, Swatch Bharat movement
53	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes, Periodically pollution reduction, plantation, energy conservation awareness campaigns carried out by institute
54	Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Yes
55	Does Institute participated in National and Local Environmental Protection Movement?	Yes, Swatch Bharat Abhiyan by students at campus.
56	Does Institute has any Recognition/certification for environment friendliness?	No
57	Does Institute using renewable energy?	No
58	Does Institution conducts a green/environmental audit of its campus?	Yes,

<b>59</b>	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	Yes, NAAC grade B
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## 12.0 BEST PRACTICES/INITIATIVES FOR ENVIRONMENT

A	<p><b>Renewable Energy</b></p> <p>Solar panel installation is planned at KACS College.</p> <p>A clean source of energy will be utilized at campus. Efforts towards Carbon Neutrality</p> <p>The Solar plant on building roofs is commissioned and will be operational that will supply approx. 50% of total power in campus.</p>	
B	<p><b>Biodiversity Conservation</b></p> <p>Flora and fauna conservation</p>	<p>They have lush green campus which provides habitat to various species. Recently conducted bird count reports Ruddy Shelduck, Common Quail, Blue Rock Pigeon, Spotted Dove, house crow, Asian Koel, Common swift, wood pecker, Small Blue Kingfisher, Small Bee-eater, House Sparrow, Common Myna, Red-whiskered bulbul, Indian Cuckoo, Indian Peafowl, Brahmini Starling, Painted Stork.</p>
C	<p><b>Tree Plantation Drives</b></p> <p>Two Drives Annually as well as Every Guest is honored by Tree Plantation at Campus.</p>	<p>Yes, periodically the plantation drives by students and staff of campus.</p>
d	<p><b>Ground Water Recharge</b></p> <p>Rain Water Harvesting System.</p>	<p>N/A, Natural ground water recharge of the rain water</p>
E	<p><b>Pollution Reduction</b> Personal Vehicles (Students) not allowed at campus</p>	<p>Reduction in Air Pollution through vehicular emission.</p>
F	<p><b>E Waste Management</b></p> <p>Collection of e-waste by staff</p>	<p>E waste is sent to the authorized recyclers for adequate disposal</p>
G	<p><b>Solid Waste Management</b></p> <p>Lifting of garbage from campus on alternate day by</p>	<p>Yes, different mechanisms for proper disposal and recycling of e-waste,</p>



	Municipal Corporation.	plastic waste, biodegradable waste and MSW
H	Adoption of Village/society CSR	No, but the General Environmental awareness campaigns like Beat the Plastic initiated by campus.
I	Water Conservation	Yes, water saving push taps fitted in the drinking water zone and the toilets to avoid the wastage.
j	Corporate Resource Center (CRC)	KACS College Corporate Resource Center (CRC) is dedicated to nurturing future leaders

### \*Green Campus Policy of College\*

Cultivation of Eco-Friendly Green Campus is a prime motto of our college. Our college belongs to drought prone area. Through different environment friendly practices and education system we jointly promote sustainable and eco-friendly environment in the campus by adopting, practicing and promoting environmental friendly practices among students and staff to generate Eco-consciousness among them and in the world around them. The green campus initiatives offers an institution the opportunity to take the lead in redefining the environmental culture of society and develop new pattern for creating sustainable solutions related to environmental, social and economic needs of the mankind.

#### **Objectives:**

- To bring awareness among the students about the hazards spoiling the environment.
- To help the students understand each individual's responsibility to take an initiative to save the environment.
- To help students take small steps in saving the environment and create awareness amongst public
- To encourage students to keep environment clean.

College try to achieve Green Campus status by making significant progress in different aspects of Environment factors:

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

#### **To reduce energy consumption;**

- Activate power management features on your computer and monitor so that it will go into a low power "sleep" mode when you are not working on it.
- Turn off your monitor when you leave your Table.
- 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.
- Energy audit of consumption of electricity in the college is conducted

**Minimize consumption of water.**

- Repair sources of water leakage, such as dripping taps as quickly as possible.
- Encourage use of recycled rainwater and grey water to reduce mains water consumption.
- Reuse the water coming out of RO water purification systems for watering plants.
- Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage.

**Waste minimization:**

- Keep a stock of paper that has been printed on one side and use it for day to day rough paper work
- 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 vermicompost produced on site wherever possible.
- Reduce the practice of burning plastic and other materials that emit harmful gas on burning is prevented in the campus.
- Use two types of bins separately for biodegradable and non-biodegradable wastes in the college campus.
- Dispose the chemical waste generated from the laboratories in a scientific manner.
- For solid waste management a vehicle from Panchayat samiti on the alternate days for collection of solid waste from college.
- All Departments and classrooms are provided with dustbins for dry wastage disposal.
- Technology is used to a greater extent for communication among the staff and the students rather than paper communication. WhatsApp - class wise groups, Department wise groups, Committee wise groups facilitate E-communication and use of public address systems reduces usage of paper in notices and circulars.

**Green Campus & Biodiversity:**

- The students and staff members are given strict instructions to maintain the campus clean and avoid the use of plastic in campus
- Several posters related to the importance of clean and green environment are displayed on the campus.
- Our college Peons alternately look after the maintenance of botanical garden, watering trees and waste free clean and Green Campus.
- College celebrates "The World Environmental day" on June 5th every year and by conducting competitions among students and also talks by eminent people to bring awareness.
- The plantation program includes plantation of various types of ornamentals, medicinal and wild plant species.
- "No Smoking, No Tobacco", Tobacco and tobacco products are strictly prohibited in the college premises. The instructions regarding this are given to the students and the staff members. The boards are displayed at various places in the college.

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## 13.0 RECOMENDATIONS

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- More effectively communicate Environment Policy to all Students, faculties and other staff members.
- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Water monitoring need to be conducted by Maharashtra State Pollution Control Committee, approved laboratory with frequency of six month.
- Reduction in use of paper work by go digital system.
- Water Meter should be installed at institute for monitoring of water consumption for landscape.
- Increase in Environmental promotional activities for spreading awareness at campus.
- As practically feasible avoid use of personal vehicles inside the campus.





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## 14.0 CONCLUSION

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This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. The KACS College has Environmental Committee for sustainable use of resources. Overall 60% of university campus is for landscaping. The audit has identified several observations for making the campus premise more environment friendly. The recommendations are also mentioned with observations for campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are waste management records by monthly inventory of hazardous waste, rainwater harvesting recharge; water balance cycle and periodic inspection of buildings housekeeping and environment policy.

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## 15.0 REFERENCE

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- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices
- Internal Records of the Campus

## 16.0 SUMMARY OF ENVIRONMENT COMMITTEE

The Environment committee of KACS, aims to spread awareness amongst students regarding the natural environment that they are a part of it, and the impact of their everyday actions on it. We aim to protect the environment by spreading awareness to save energy, water, reducing use of disposable plastics, promoting reusable materials, planting saplings, etc. We believe that better world is not only within reach, but is being built today. We conduct environment friendly events which are not only intellectual, but also interactive and fun to attend. These include workshops, tree plantation drives, rallies, and online awareness campaigns, competitions such as Slam Poetry, Poster Making- online and offline and so on. The Society has also taken pride in being eco-friendly in every little way possible, starting from our paper free, online council elections. The Environment committee currently has over 989 students under its wing.

The Environment committee focuses on utilizing the power of social media platforms for spreading awareness regarding environment conservation and protection. It has an active *Whats' app, youtube and facebook* page on which all the events of the society and environment related posts are uploaded time to time. Technology is used to a greater extent for communication among the staff and the students rather than paper communication. What'sapp - class wise groups, Department wise groups, Committee wise groups facilitate E-communication and use of public address systems reduces usage of paper in notices and circulars. 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.

AWARENESS BUILDING CUM ACTION			
Herbal garden	Medicinal plants planted	Learning about herbs cum gardening	Learning through action
Clear and clean KACS campus	Attempt to inculcate self help in cleanliness	Allotted spaces maintenance	To internalize 'no litter and no shame in picking up litter'
Effects of mobile phone radiation on health	Survey about mobile usage in KACS, Poster campaign; later activists to address issues	Currently awareness building	On green board
Effects of e-waste	Information campaign	To drive home good practices of disposing off e-goods	On green board



Environment committee identified and put-up nameplates of 86 different species of trees present in our college campus for developing awareness about diversity in nature. In continuation, this year a project on tree watch and tree mapping were carried out for 15 species. We found that our college has 5 Badam (*Prunusdulcis*), 10 Boganwel (*Bougainvillea glabra*) 5 Neem trees (*Azadirachta Indica*) and 4 Sagwan trees (*Tectonagrandis*).

#### *KEY ACTIVITIES - 2021-2022*

---

- **05<sup>th</sup> June 2021-** Environment is playing a crucial role to survive man and animal on the earth. Regarding world environment day 5th June we celebrate in our college by organized one lecture in dept. of Geography.
- **16<sup>th</sup> Sep 2021-** World Ozone Day is observed on September 16 by organized one lecture. It is celebrated to spread awareness among students about the depletion of the Ozone Layer and search for possible solutions to preserve it.
- **24<sup>th</sup> March 2022-** In KACS college NSS, Botany and other departments are always enthusiastic for tree plantation. Generally, whenever guests visit to college, they plan for tree plantation with their auspicious hands. Also, Internal Complaint committee had organized tree plantation program by women of local area to bring environment awareness among them. Students also deliberately participate in tree plantation whenever they get chance.

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## 17.0 ANNEXURE - PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS

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Rain water that is collected in ground of college campus is diverted towards percolation tank to recharge borewell.





**Overhead Water storage - With cleaning frequency and distribution system in the campus**

There are Five Syntax Water Tanks on the Roof of college, of which 2 tanks are of 2000 lit. and 3 are of 1000 lit. Water from these tanks is distributed to various laboratories, departments, washrooms and water filter through pipelines.





### Water distribution to plants by Drip Irrigation





**Solid Waste Management in college:**

Facilities in the Institution for the management of the following types of degradable and non-degradable waste

- For Solid Waste Management One in 72 sq. ft. Dual Bio composting Tumbler is prepared on back side of the college.
- Vermicompost Bed is also built for Solid waste management of garden



**Dustbins kept to collect the solid waste:**



**Local Municipality Vehicle collect the Solid waste:**







**Environment based various types' awareness programs celebration:**

Guest lecture on Environment Effect on Human Health was organized by Department of Geography on behalf of World Environment day 5th June 2022



Oath of Environment protection was given to students and teachers on behalf of World Environment Day by Geography department



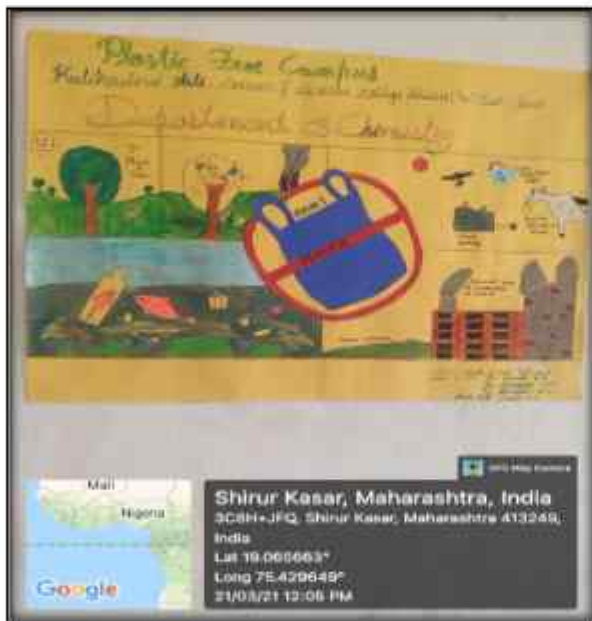
### Tree Plantation by students, teachers and Guests:

In college NSS, Botany and other departments are always enthusiastic for tree plantation. Generally whenever guests visit to our college we plan for tree plantation with their auspicious hands. Also Internal Complaint committee had organized tree plantation program by women of local area to bring environment awareness among them. Students also deliberately participate in tree plantation whenever they get chance





Display of Environment related posters in college campus:





Sign Boards in College Premises:



Health and Safety measures used in college:



तात्काळ फोन नंबर	
पोलीस स्टेशन	02888-249439
प्रा.आरोग्य केंद्र	02888-249666
बस स्टॅन्ड	02888-249450
दामिनी पथक	८६६९३०९३०९
फायर ब्रिगेड	१०१
अॅम्ब्युलन्स	१०८, १०२

### Instruction

**General Observation:**

- 1) Do not enter in the laboratory with empty stomach.
- 2) Observe silence in the laboratory.
- 3) Always work with confidence does not consult neighbours.
- 4) Unnecessary, do not move from table to table.
- 5) Do not leave the laboratory without permission of the teacher.

**Follow in the lab:**

- 1) Check the apparatus supplied to you before starting the experiment.
- 2) Wash the working table before & after the working.
- 3) Keep the working table neat & clean.
- 4) Keep the reagent bottle in the proper after use.
- 5) Do not bring the indicator & reagent bottles on the working table.
- 6) Discard the solid waste in to the waste paper basket & liquid waste into sink.
- 7) Do not keep burner lighted if not in used.
- 8) Close the water tap immediately after use.
- 9) Do not sniff any gas heavily nor test any chemicals.
- 10) Do not pour the chemicals back into the stocks bottles.
- 11) Return the apparatus after the end of experiment.

**General Accidents Instructions:**

- 1) Report any injury immediately to the teacher.
- 2) Always stand straight at your working table to avoid any accident.
- 3) Never point the test tube at anybody while heating.
- 4) If any chemical falls on the body, wash it with plenty of water.

**आणिभारतीय काल, भारतीय व विज्ञान पर्यावरण, शिरूर (का.), मा. विद्या (का.), वि. शि.**

### सुबिज्ञान विभाग

#### पर्यावरणशास्त्र विभाग

- 1) पर्यावरण शास्त्राचे महत्त्व समजावणे.
- 2) पर्यावरण शास्त्राची व्याख्या करणे - जसे पर्यावरण म्हणजे अन्न, वस्त्र, वातावरण इत्यादी.
- 3) पर्यावरण शास्त्राचे क्षेत्र समजावणे. जसे पर्यावरण शास्त्राचे क्षेत्र अन्न, वस्त्र, वातावरण इत्यादी.
- 4) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
- 5) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
- 6) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
- 7) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
- 8) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
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- 12) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.
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- 14) पर्यावरण शास्त्राची व्याख्या करणे. जसे पर्यावरण शास्त्राची व्याख्या अन्न, वस्त्र, वातावरण इत्यादी.

Specious and ventilated Class rooms:



**Shirur, Maharashtra, India**  
 Unnamed Road, Shirur, Maharashtra 413249, India  
 Lat N 19° 3' 55.4328"  
 Long E 75° 25' 47.208"  
 08/03/21 10:42 AM



**Landscaping and Tree Plantation in college premises:**





**Medicinal Plants:**





**Ornamental Plants:**



**Identification of plant species in college campus:**

<b>Medicinal plants in Botanical Garden</b>			
<b>Sr. No.</b>	<b>Local Name</b>	<b>Botanical Name</b>	<b>No of plants</b>
01	Adulsa	<i>Justiciaadhatoda</i>	2
02	Jaswand	<i>Hibiscus rosa-sinensis</i>	1
03	Mehandi	<i>Lawsoniainermis</i>	1
04	Aawala	<i>Phyllanthusemblica</i>	2
05	Anjeer	<i>Ficuscarica</i>	1
06	Limboni	<i>Limoniaacidissima</i>	1
07	Idlimbu	<i>Citrus jambhiri</i>	1
08	Nagdaman	<i>Artemisia nilagirica</i>	1
09	Pandhariringni	<i>Solanumsurattense</i>	1
10	Panphuti	<i>Bryophyllumpinnatum</i>	2
11	Mango	<i>Mangiferaindica</i>	1
12	Karipatta	<i>Murrayakoenigii</i>	1
13	Shevga	<i>Moringaoleifera</i>	1
14	Tulas	<i>OcimumTenuifloram</i>	3
15	Dalimb	<i>Punicagranatum</i>	1
16	Gulwel	<i>Tinosporacardifoliya</i>	1
17	Arjun	<i>Terminaliaarjuna</i>	1
18	Korphad	<i>Aloe vera</i>	2
19	Aswagandha	<i>Withaniasomnifera</i>	1
20	Shatawari	<i>Asparagus racemosus</i>	1
21	Tuti/ Shahatut	<i>Morus alba</i>	1
22	Onions	<i>Allium cepa</i>	1
23	Papaya	<i>Carica papaya</i>	3
24	Shitaphal	<i>Annonasquamosa</i>	2
25	Lahasun	<i>Allium sativum</i>	1
26	MakadShindoli	<i>Carallumafimbriata</i>	1
27	Nagwel	<i>Piper betle</i>	2



28	Pudina	<i>Menthapiperita</i>	1
29	Adrak	<i>Zingiberofficinale</i>	1
30	Coconut	<i>Cocosnucifera</i>	4
31	GavatiChaha	<i>Cymbopogoncitratus</i>	1
32	Aaghada	<i>Achyranthesaspera</i>	1

Ornamental plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Silver oak	<i>Grevillearobusta</i>	4
02	Decoration Fox-Tall Palm	<i>WodyetiaBifurcata</i>	4
03	Boganwel	<i>Bougainvillea glabra</i>	10
04	Indian Christmas		4
05	Ashoka	<i>Saracaindica</i>	4
06	Sita Ashok	<i>Saracaashoka</i>	2
07	Parijatak	<i>Nyctanthesarbortristis</i>	2
08	Kewada	<i>Pandanusodorifer</i>	1
09	Chandipat	<i>Tabernaemontanadivaricata</i>	1
10	Lavang Plant	<i>SyzygiumAromticum</i>	1
11	Bakul	<i>Mimusopselengi</i>	1
12	Cluster Palm	<i>Caryotamitis</i>	2
13	Costal Palm	<i>Allagopteraarenaria</i>	2
14	Areca Palm	<i>Dypsislutescens</i>	2
15	Supari Plant	<i>Areca catechu</i>	2
16	Money Plant	<i>Epipremnumaureum</i>	1
17	Morpankhi plant	<i>Platyclusorientalis</i>	2
18	Cycus	<i>Cycasrevoluta</i>	1
19	Nilikaticoranti	<i>Barleriaprionitis</i>	2
20	Yellow Croton plants	<i>CodiaeumVariegatum</i>	2
21	Krushna kamala wel	<i>Passifloralncarnata</i>	1
22	Kardali	<i>Canna indica</i>	1

23	Ixora Pink plants	<i>Ixorajavanica</i>	2
24	Tagar white double	<i>TabernaemontanaDivaricata Double</i>	2
25	Madhumaltiwel	<i>Combretumindicum</i>	2
26	Iberis Amara white	<i>Iberisamara</i>	2
27	Gaudichaudi (Yellow)	<i>TecomaGaudichaudi/Yellow Bells</i>	1
28	Chafa (Red-yellow)	<i>Plumeriaobtusa</i>	1
29	Kenna		2
30	Oxycardium, Heart leaf plant	<i>Philodendron hederaceum</i>	1
31	Bottle Palm tree	<i>Hyophorbelagenicaulis</i>	4
32	Bonsai Bottle palm with Trunk	<i>Hyophorbelagenicaulis (Bonsai)</i>	1
33	Table/ Umbrella palm	<i>Livistonarotundifolia</i>	2
34	Adenium Pink Bonsai	<i>Adeniumobesum</i>	2
35	Red Espoma Cactus plants	<i>Espoma Cactus</i>	1
36	Henry's red Rhododendron plant	<i>Rhododendron monrovia</i>	1
37	FicusBenjamina plant's	<i>FicusBenjamina</i>	1

Wild plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Bambu	<i>Bambusa vulgaris</i>	4
02	Gajga	<i>Caesalpinia bonduc</i>	2
03	Sheesham	<i>Dalbergiasissoo</i>	4
04	Sagwan	<i>Tectonagrandis</i>	4
05	Niltagar		2
06	Tarwat	<i>Peltophorumpterocarpum</i>	5
07	Kadu limb	<i>Azadirachta indica</i>	5
08	Babhul	<i>Vachellianilotica</i>	2
09	Aapta	<i>Bauhinia racemosa</i>	1

10	Karanj	<i>Millettiapinnata</i>	1
11	Hirda	<i>Terminaliachebula</i>	2
12	Mahogany	<i>swieteniamahagoni</i>	2
13	BhediVruksha	<i>Thespesiapopulnia</i>	2
14	Arjun	<i>Terminaliaarjuna</i>	1
15	English Chich	<i>Pithecellobiumdulce</i>	2
16	Chinch	<i>Tamarindusindica</i>	2
17	Badam	<i>Prunusdulcis</i>	5

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*TRANSPARENCY OF GREEN AUDIT REPORT*

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*Green audit report is one of the useful means of demonstrating an organization/Institution's commitment to openness and transparency. If an Institute believes it has nothing to hide from its stakeholders, then it should feel confident enough to make its green audit reports freely available to those who request them. As a basic rule, green audit reports should be made available to all stakeholders.*

\*\*\*\*\*



**Office Address: Office No-403, Fourth Floor, Chaitanya Terrace  
Sr. No. 43/31, 32, 33, behind Ganapati Temple, Manaji Nagar,  
Narhe, Pune, Maharashtra 411041 India.**



# ENVIRONMENT AUDIT REPORT



**Adarsh Shikshan Sanstha Beed's,  
KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE,  
Shirur Kasar. Tq- Shirur(Ka), Dist- Beed, Maharashtra.**



**Office Address- 1, Vighnaharta tower, S. No. 15, Vighnaharta  
Nagar, Nr Chintamani school, Ambegaon Bk, Pune-411046,  
Maharashtra, India. [www.adityaenvirotech.com](http://www.adityaenvirotech.com)**

# Environment Audit Certificate

IS PRESENTED TO: "Adarsh Shikshan Sanstha Beed's"  
*Kalikadevi Arts, Commerce & Science College, Shirur  
(Kasar), Tq-Shirur(Kasar), Dist-Beed, Maharashtra.*

The assessment was carried out as per the criteria VII mentioned in NAAC for the college campus during 25th to 27th March 2021. It was found that campus as a whole unit was committed to environmental friendly actions and demonstrated through its various implementations along with well-structured Environment Policy. We wish all the best for all the future endeavors.

AET/KACS/20-21

Date- 30<sup>th</sup> March 2021



**Mr. R. S. Shinde**  
CO-AUDITOR



**Dr. Swapnil Sheth**  
AUDITOR





# Green Audit Certificate

IS PRESENTED TO: "Adarsh Shikshan Sanstha Beed's"  
*Kalikadevi Arts, Commerce & Science College, Shirur  
(Kasar), Tq-Shirur(Kasar), Dist-Beed, Maharashtra.*

The assessment was carried out as per the criteria VII mentioned in NAAC for the college campus during 25th to 27th March 2021. It was found that campus as a whole unit was committed to environmental friendly actions and demonstrated through its various implementations along with well-structured Environment Policy. We wish all the best for all the future endeavors.

AET/KACS/20-21

Date- 30<sup>th</sup> March 2021



**Mr. R. S. Shinde**  
CO-AUDITOR



**Dr. Swapnil Sheth**  
AUDITOR



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## 2.0 DISCLAIMER

Aditya Envirotech Green Audit/Environment Audit Team has prepared this report for **Kalikadevi Arts, Commerce and Science College, Shirur Kasar** based on input data submitted by the representatives of college complemented with the best judgment capacity of the expert team.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

If you wish to distribute copies of this report external to your organization, then all pages must be included.

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**Report by: (Dr. Swapnil Sheth) Lead Auditor**

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## 3.0 CONTEXT

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We are committed as a component of Corporate Social Responsibility of the Higher Edifying Institutions to ascertain that they contribute towards the minimization of ecumenical warming through Carbon Footprint abbreviation measures.

KACS College Management decided to conduct an external Green Evaluation by a competent Green Auditor along with a Green Audit Assessment Team headed by Dr. Gholap P. N., **KACS College, Shirur Kasar.**

Green Audit or Environment Audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the College Management. The concept, structure, objectives, methodology, tools of analysis, objectives of the audit are mentioned below.

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## 4.0 CONCEPT

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The term 'Environmental audit' or 'Green audit' means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations/Institutions believe that an 'environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Green Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:

*"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."*

The outcome of Green Audit should be established with concrete evidence that the measures undertaken and facilities in the institution under green auditing.



## 5.0 INTRODUCTION

A Nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with environment. Educational institutions now a days are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc. The activities pursued by colleges can also create a variety of adverse environmental impacts.

Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. Green audit is defined as an official examination of the effects a college has on the environment. As a part of such practice, internal environmental audit (Green Audit) is conducted to evaluate the actual scenario at the campus.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. Green auditing and the implementation of mitigation measures is a win-win situation for all the college, the learners and the planet. It can also create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus.

Green auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues.

Environmental Management Systems (EMS) is very popular in the industrial sector, but the general belief is that EMS is something pertaining to industries only. Other parts of the world have started adopting compatible environmental management systems either voluntarily or for promoting standards by external certification. International environmental standards do not suit the existing Indian educational system. Hence Aditya envirotech has developed a compatible system by developing locally-applicable techniques.



A very simple indigenized system has been devised to monitor the environmental performance of educational institutions. It comes with a series of questions to be answered on a regular basis. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without stress on legal issues or compliance. This innovative scheme is user-friendly and totally voluntary. The environmental monitoring system helps the institution to set environmental examples

for the community and to educate young learners. It can be adapted to urban and / or rural situations.

## 60 OVERVIEW OF INSTITUT E

Adarsh Shikshan Sanstha is a rural voluntary service organization. It was established by the contribution of authentic members with the motive of "Social Development" in Taluka- Shirur Kasar Dist. Beed state Maharashtra. Kalikadevi Arts, Commence and Science College, Shirur Kasar, run by Adarsh Shikshan Sanstha, Beed was established in January 2002 by Honorable late Kesharbai Sonajirao Kshirsagar Alias. Kaku (Ex. Member of Parliament), with noble and foresighted vision to provide higher education to youth of rural areas. The College is affiliated to Dr. Babasaheb Ambedkar Marathwada University Aurangabad. The college provides three programs; at UG level i.e., Arts, Commerce and Science and two programs of PG level M.A. English and M.Com. The college has also introduced, Tourism and Service Industries course from academic year 2020-2021. UGC has recognized the institution with 2(f) and 12(B).

The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen; consumer store (Grahak Bhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care center and competitive examination coaching classes' center for students of college and other stakeholders.

College arranges study tours to places of historical and geographical importance, visits to various study centers, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech events science exhibition etc. Our NSS and Life Long Learning and Extension department conducts society-oriented programs like blood donation camps, eco-friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy program etc. Student mentoring system is also available in the college to solve the student's personal and social problems.

College has achieved Best NSS Unit Award and Best NSS Program Officer Award twice. Our college had portrayed Kerala Flood Disaster for Road Rally in Central Youth Festival of Dr.



Babasaheb Ambedkar Marathwada University Aurangabad and acquired 1<sup>st</sup> Prize for it for academic year 2018-2019. Also, College got III<sup>rd</sup> Prize in the same event for academic year 2019-2020 by portraying Pulvama Attack Event. Other than that, our faculty members had also received awards in different fields of education.

With a proper Vision and Mission, we, as an Institute are striving to give quality Education, Ethics and Morals to our students and looking forward to give as much as possible.



#### **The Vision**

The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development of self and society.

#### **The Mission**

- To mentor and inculcate social moral values in students and empower them towards a nation building activity.
- To cultivate feeling of social bonding and development among students through different intervention and entrepreneurship program of college.
- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform for students to feel free to point out their problems, general drawbacks and limitations.

**Perspective plan:**

- MOUs and linkages will be established on institutional and department level with the institutes of National and International level.
- Staff members will be motivated to submit Major and Minor Research Projects to UGC and other funding agencies.
- Steps will be taken to build up more ICT facilities in college.
- Measures will be taken to introduce new B.Voc and Certificate courses.
- Green/Environment and Energy Audit of campus will be conducted on regular basis.
- Placements will be organized for students by inviting reputed companies.
- Proposals for offline National and International Seminars/ Conferences and Workshops will be submitted to different funding agencies and University.
- Essential software will be purchased to make office and library more efficient.

**Geographical Description of the area –**

Beed is situated in the Deccan black basalt stone, ranges of Balaghat that constitutes main range from Ahmednagar in the west, to the border of district Beed in the East. This range divides the district into two parts. The plain area in the north is called as Gangathadi (bank of Ganga-Godavari) and the higher part is called as Ghat at Balaghat. Many hills exceed 2500 feet mark from the sea level. Balabhat range is found in between heights of 2000 and 2200 feet, whereas the plain is called Gangathadi and it has the heights between 1200 and 1500 feet from the sea level.

ShirurKasar is a Tehsil in the Beed subdivision of the Beed district, in the Indian state of Maharashtra. The town is situated on the southern bank of the river Sindafana, a tributary of the Godavari River. Shirur Kasar obtained Tehsil status in 1999. Prior to that it was part of the Tehsil Patoda, which is also a subdivision of the Beed district.

**Rainfall-**

Shirurkasar tehsil is situated in draught prone area of Maharashtra in the Balaghat mountain ranges. In Shirur Kasar Tehsil the average annual temperature is 25.40C and the average rainfall is 498 mm

**Geographical Location–**

Shirur Kasar is one of the important Tehsil in Beed District. In Beed District total number of Tehsil is 11 in that Shirur Kasar is made in 1999 divided from Patoda Tehsil. Total population of ShirurKasar is 128583. There are 26642 houses in the Tehsil. Geographically Shirur Kasar tehsil is located between 1904, 30, N latitude and 75045, 54, E Longitude



Total Campus area:

Sr. No.	Specification	Information
1	Total Campus Area	10119.19 SQ.M
2	Build Area	3259.76 SQ.M
3	Total Number of Classrooms	16
4	Total Toilets Western / Indian	2+1
5	Total Urinals	8
6	Total Water Coolers With Capacity	--
7	Monthly Electric Bill	Average 8000/-
8	Water Quantity	Sufficient
9	Quality Analysis	Drinkable



KACS College imparts education to *Undergraduates* in the following Departments:

- Department of English
- Department of Marathi
- Department of Hindi
- Department of Pub-Admin
- Department of Economics
- Department of Pol-Science
- Department of Sociology
- Department of History
- Department of Home Science
- Department of Geography
- Department of Physical Education
- Department of Botany
- Department of Zoology
- Department of Chemistry
- Department of Physics
- Department of Mathematics
- Department of Commerce
- Department of YCMOU

#### COURSE OFFERED

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##### **B. Voc Courses in KACS (NSQF Level- 7 Certification)**

- Travels and Tourism Course

## 7.0 OBJECTIVES AND SCOPE

The broad aims/benefits of the eco-auditing system would be

- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the College campus and its environment
- Enhancement of College profile
- Developing an environmental ethic and value systems in young people

## 8.0 AUDIT PARTICIPANTS

On behalf of Institute:

Name	Position/Department
Dr. Tupe S. K.	IC/Principal, KACS College
Dr. Gholap P. N.	Chairman (Environment Committee), KACS College
Dr. Sawate S. R.	Assoc. Professor–Member (Environment Committee)
Dr. Lomte S. B.	Assistant Professor –Member (Environment Committee)
Mr. Vithal Tupe	Non- teaching staff
Miss. Rohini Bargaje	Student representative
Miss. Sangeeta Mahadik	Student representative
Mrs. Shakuntala Mahadik	Parent representative

On behalf of Aditya Envirotech:

Name	Position	Qualification
Dr. Swapnil Sheth	Lead Auditor	M.Sc. (Environment Sc.), Ph.D.
Mr. R. S. Shinde	Co- Auditor	M.Sc. (Environment sc.)

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## 9.0 EXECUTIVE SUMMARY

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An environmental audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes outdated unless there is some mechanism in place to continue the effort of monitoring environmental compliance.

KACS already done internal green assessment and annual reports published for continual improvements; QS Programme and doing their bid towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.

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## 10.0 AREAS OF IMPROVEMENT

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- Environment Policy to be adopted by the College Campus.
- Water Meter should be installed and maintain the inventory of ground water extraction resource bore well.
- Storage of chemicals like; paints, gums resins, oils, lubricants, acids etc. in designated place and safety/warning signs should be displayed.
- Internal inspection system should be developed for various aspects of environment available in campus
- Waste Management plan should be prepared for the campus.
- Display of environment awareness posters should be there in the prominent areas of campus.



## 11.0 ENVIRONMENTAL AUDIT - QUESTIONNAIRE

The areas of eco/environmental/green auditing to be followed/practiced by participating institutions:

11.1.1 Waste Minimization and Recycling

11.1.2 Greening

11.1.3 Energy Conservation

11.1.4 Water Conservation

11.1.5 Clean Air

11.1.6 Animal Welfare

11.1.7 Environmental Legislative

11.1.8 General Practices

### Does any Environmental Audit conducted earlier?

The college has conducted the internal Green Audit of KACS. The Annual reports records reviewed during the audit. Main focus of this is to bring awareness of environmental values in students and society. Now, the external audit for environment is awarded to Aditya envirotech for a systematic way of monitoring the environmental eminence initiative, taken by college for environment protection.

### What is the total permanent population of the Institute?

	Male	Female	Total
<b>Students</b>	576	413	989
<b>Teachers</b>	27	3	30
<b>Non-Teaching Staff</b>	16	–	16
<b>Sub Total</b>	619	416	1035
<b>Approximate Number of Visitors (Per day)</b>			10
<b>What is the total number of working days of your campus in a year?</b>			180

Note: \* The futuristic recruitments included in total population (Teaching Staff # 11; Non-Teaching Staff # 04)

### Where is the campus located?

The campus is Located in Shirur Kasar, Dist-Beed.

### Which of the following are available in your institute?

1 Garden area	Available
2 Play ground	Available
3 Kitchen	Available
4 Toilets	Available
5 Garbage Or Waste Store Yard	Available
6 Laboratory	Available
7 Canteen	Available
8 Hostel Facility (numbers)	Not Available
9 Guest House	Not Available

### Which of the following are found near your institute?

1 Municipal dump yard	Not in vicinity of institute
2 Garbage heap	No Garbage heaps
3 Public convenience	Yes
4 Sewer line	1 km sewer line within campus
5 Stagnant water	No stagnant water
6 Open drainage	No
7 Industry – (Mention the type)	No
8 Bus / Railway station	Faraway from campus
9 Public halls	Yes

## 11.1 WASTE MINIMIZATION AND RECYCLING

<p>1. Does your institute generate any waste? If so, what are they?</p>	<p>Yes, Solid waste, Canteen waste, paper waste, plastic waste, toiletry waste, Horticulture Waste, etc.</p>			
<p>2. What is the approximate amount of waste generated per day? (In Kilograms/Day) (approx.)</p>	<p>Bio Degradable</p>	<p>Non-Biodegradable</p>	<p>Hazardous</p>	<p>others</p>
	<p>10 kg</p>	<p>0.5 kg</p>	<p>&lt;0.5kg</p>	<p>&lt;1kg</p>
<p>3. How is the waste generated in the institute managed? By</p> <ol style="list-style-type: none"> <li>1 Composting</li> <li>2 Recycling</li> <li>3 Reusing</li> <li>4 Others (specify)</li> </ol>	<p>For Solid Waste Management One in 72 sq ft Dual Bio composting Tumbler is prepared on back side of the college campus, Reuse of one side printed Paper for internal communication. Sewage water is discharged to public Sewer. Domestic Waste is given to Municipal Corporation. Waste bins are provided at campus for biodegradable and non-biodegradable waste. Vermicompost Bed is built for Horticulture waste. Incinerator is used for managing sanitary waste.</p>			
<p>4. Do you use recycled paper in institute?</p>	<p>Yes, in academic evaluation works</p>			
<p>5. Do you use reused paper in institute?</p>	<p>Yes</p>			
<p>6. How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.</p>	<p>Yes, KCACS carried out numerous activities. Recycling campaigns, e waste management, Anti-plastic campaigns, Vriksharopan, sustainable goal awareness programme.</p>			
<p>7. Can you achieve zero garbage in your institute? If yes, how?</p>	<p>Yes, as per new waste management rules all kind of waste is managed in an adequate manner without any deviation.</p>			



## 11.2 GREENING THE CAMPUS

8.	Is there a garden in your institute?	Yes, about 1 Acre is the Green Area.	
9.	Do students spend time in the garden?	2-4 Hours during winters	
10.	Total number of Plants in Campus	Plant type	Approx. number
		Trees	More than 170
		Shrubs	More than 200
		Grass Cover	1 Acre
11.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	Ashoka, Ficus Religeosa, Boganvella, Alovera, Azadirachta indica , and many more as per geographical regime.	
12.	Is the College campus have any Horticulture Department	Yes	
	Number of Staff working in Horticulture Department	Two Gardeners	
13.	Number of Tree Plantation Drives organized by college per annum. (If Any)	Yes, One Tree Plantation Drives are Organized Annually. 30+ trees and 50+ shrubs planted in this financial year.	
14.	Number of Trees Planted in Last FY.	30	
	Survival Rate	90%	
15.	Plant Distribution Program for Students and Community	Yes. Seed Bank is developed and, Saplings are distributed to Students and visitors at various Occasions.	
16.	Plant Ownership Program	No	

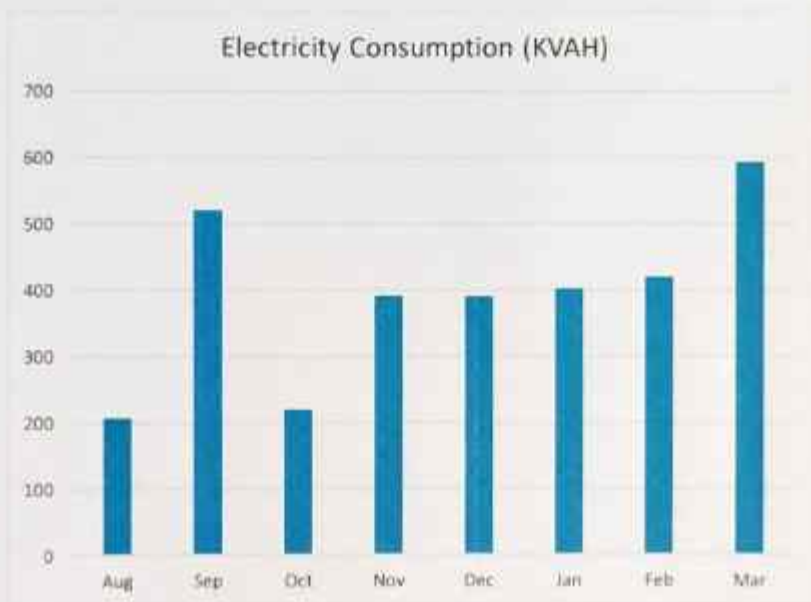
**11.3 ENERGY**

<b>17.</b> List few ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.	Electricity is saved by use of LED bulbs for illumination, LPG is saved by use of Pressure cookers for cooking food. Alternate source of energy, Installation in plan.
<b>18.</b> Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some	No, Messages will be displayed at various locations to aware the People about Energy Savings. Use of Natural Lights and Natural Ventilation is promoted.
<b>19.</b> How many CFL/LED bulbs has your institute installed?	50 % of Total Conventional bulbs are replaced by LED Lights.
<b>20.</b> Are any alternative energy sources employed / installed in your institute? (Photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	No,
<b>21.</b> Do you run "switch off" drills at institute?	Yes
<b>22.</b> Are your computers and other equipment's put on power-saving mode?	Yes, In Practice
<b>23.</b> Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?	No

Table showed the power consumption details of last year

S.No	Month	Electricity Consumption (KVAH)
1	Aug	207
2	Sep	521
3	Oct	219
4	Nov	392
5	Dec	391
6	Jan	403
7	Feb	420
8	Mar	593

Energy consumption trend is in accordance with electricity readings captured by Reliance Energy with Bill consumer No. 587710276251, Bill Cycle Aug 2020 to Mar 2021





#### 11.4 WATER CONSERVATION

24.	List uses of water in your institute	Basic usage of water in campus are; Drinking, Gardening, Kitchen & Toilets, and Others. And total consumption is 500.00 KL/month
25.	How does your institute store water? Are there any water saving techniques followed in your institute?	Avoid overflow of water-controlled valves are provided in water supply system.
26.	If there is water wastage, specify why and How can the wastage be prevented / stopped?	No
27.	Locate the point of entry of water and point of exit of waste water in your institute.	Entry- Water comes from Borewell watersupply at campus Exit- From Water Drainage System to the back gate of campus
28.	Write down few ways that could reduce the amount of water used in your institute	By Following ways: 1. RWH, Close the taps after usage 2. Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage 3. Water Conservation awareness for new students
29.	Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many liters of water have been used.	Not available
30.	Does your institute harvest rain water?	The rain water that is collected in ground of college campus is diverted towards percolation tank. Through underground Pipe line system, it recharges the bore well in the campus

31.	Is there any water recycling System.	No.
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### 11.5 CLEAN AIR

32	Are the Rooms in Campus are Well Ventilated?	Yes				
33	Window Floor ratio of the Rooms	Very Good				
34	Provide details of school-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	--	--	--	--	--
	No. of vehicles more than five years old	--	--	--	--	--
	No. of Air conditioned vehicles	--	--	--	--	--
	PUC done	--	--	--	--	--
35	Specify the type of fuel used by your school's vehicles:	Total				
	Diesel			--		
	Petrol			--		
	CNG			--		
	LPG			--		
	Electric			--		
36	Air Quality Monitoring Program (If Any)	No monitoring is being done				
37	Students suffer from respiratory ailments? (If Any)	No				
38	Details of Genset	No				

**11.6 ANIMAL WELFARE**

39	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	More than 50 Squirrels are found in the campus, Approx. 2 cats and others including butterflies, insects, bees, earthworms, etc. are there in campus.
40	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	Not required
41	Does your institute have a Biodiversity Programme?	Yes

**11.7 ENVIRONMENTAL LEGISLATIVE COMPLIANCE**

42	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes.
43	Does your institute have any rules to protect the environment? List possible rules you could include.	They have banned single use plastic. Their environment policy includes awareness, and environmental conservation efforts through KACS and Department of Environmental Sciences. All under graduates are studying the paper of Environmental Sciences, prescribed by UGC.
44	Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	NA
45	Does Water and Wastewater Quality monitoring conducted by the Institute?	NA
46	Does stack monitoring of DG sets conducted by the Institute?	NA
47	Is any warning notice, letter issued by state government bodies?	No



48	Does any Hazardous waste generated by the Institute?	No
49	Does any Bio medical waste generated by the Institute? If yes explain its category and disposal method	No

### 11.8 GENERAL

50	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
51	Does your institute have any rules to protect the environment? List possible rules you could include.	Yes, there are some rules like e banned single use plastic. Their Environmental Policy includes awareness and environmental conservation.
52	Does housekeeping schedule in your campus?	Yes, Swatch Bharat movement
53	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes, Periodically pollution reduction, plantation, energy conservation awareness campaigns carried out by institute
54	Does Important Days Like World Environment Day, Earth Day, and Ozone Dayetc. eminent in Campus?	Yes
55	Does Institute participated in National and Local Environmental Protection Movement?	Yes, Swatch Bharat Abhiyan by students at campus.
56	Does Institute has any Recognition/certification for environment friendliness?	No
57	Does Institute using renewable energy?	No
58	Does Institution conducts a green/environmental audit of its campus?	Yes,

59	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	Yes, NAAC grade B
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## 12.0 BEST PRACTICES/INITIATIVES FORENVIRONMENT

<b>A</b>	<p><b>Renewable Energy</b></p> <p>Solar panel installation is planned at KACS College.</p> <p>A clean source of energy will be utilized at campus. Efforts towards Carbon Neutrality</p> <p>The Solar plant on building roofs is commissioned and will be operational that will supply approx. 50% of total power in campus.</p>	
<b>B</b>	<p><b>Biodiversity Conservation</b></p> <p>Flora and fauna conservation</p>	<p>They have lush green campus which provides habitat to various species. Recently conducted bird count reports Ruddy Shelduck, Common Quail, Blue Rock Pigeon, Spotted Dove, house crow, Asian Koel, Common swift, wood pecker, Small Blue Kingfisher, Small Bee-eater, House Sparrow, Common Myna, Red-whiskered bulbul, Indian Cuckoo, Indian Peafowl, Brahmini Starling, Painted Stork.</p>
<b>C</b>	<p><b>Tree Plantation Drives</b></p> <p>Two Drives Annually as well as Every Guest is honored by Tree Plantation at Campus.</p>	<p>Yes, periodically the plantation drives by students and staff of campus.</p>
<b>d</b>	<p><b>Ground Water Recharge</b></p> <p>Rain Water Harvesting System.</p>	<p>Yes, 50% recharge of the rain water</p>
<b>E</b>	<p><b>Pollution Reduction</b> Personal Vehicles (Students) not allowed at campus</p>	<p>Reduction in Air Pollution through vehicular emission.</p>
<b>F</b>	<p><b>E Waste Management</b></p> <p>Collection of e-waste by staff</p>	<p>E waste is sent to the authorized recyclers for adequate disposal</p>
<b>G</b>	<p><b>Solid Waste Management</b></p> <p>Lifting of garbage from campus on alternate day by</p>	<p>Yes, different mechanisms for proper disposal and recycling of e-waste.</p>



	Municipal Corporation.	plastic waste, biodegradable waste and MSW
H	Adoption of Village/society CSR	No, but the General Environmental awareness campaigns like Beat the Plastic initiated by campus.
I	Water Conservation	Yes, water saving push taps fitted in the drinking water zone and the toilets to avoid the wastage.
J	Corporate Resource Center (CRC)	KACS College Corporate Resource Center (CRC) is dedicated to nurturing future leaders.

### "Green Campus Policy of College"

Cultivation of Eco-Friendly Green Campus is a prime motto of our college. Our college belongs to drought prone area. Through different environment friendly practices and education system we jointly promote sustainable and eco-friendly environment in the campus by adopting, practicing and promoting environmental friendly practices among students and staff to generate Eco-consciousness among them and in the world around them. The green campus initiatives offers an institution the opportunity to take the lead in redefining the environmental culture of society and develop new pattern for creating sustainable solutions related to environmental, social and economic needs of the mankind.

#### Objectives:

- To bring awareness among the students about the hazards spoiling the environment.
- To help the students understand each individual's responsibility to take an initiative to save the environment.
- To help students take small steps in saving the environment and create awareness amongst public
- To encourage students to keep environment clean.

College try to achieve Green Campus status by making significant progress in different aspects of Environment factors:

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

#### To reduce energy consumption;

- Activate power management features on your computer and monitor so that it will go into a low power "sleep" mode when you are not working on it.
- Turn off your monitor when you leave your Table.
- 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.
- Energy audit of consumption of electricity in the college is conducted

Minimize consumption of water.

- Repair sources of water leakage, such as dripping taps as quickly as possible.
- Encourage use of recycled rainwater and grey water to reduce mains water consumption.
- Reuse the water coming out of RO water purification systems for watering plants.
- Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage.

**Waste minimization:**

- Keep a stock of paper that has been printed on one side and use it for day to day rough paper work
- 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 vermicompost produced on site wherever possible.
- Reduce the practice of burning plastic and other materials that emit harmful gas on burning is prevented in the campus.
- Use two types of bins separately for biodegradable and non-biodegradable wastes in the college campus.
- Dispose the chemical waste generated from the laboratories in a scientific manner.
- For solid waste management a vehicle from Panchayat samiti on the alternate days for collection of solid waste from college.
- All Departments and classrooms are provided with dustbins for dry wastage disposal.
- Technology is used to a greater extent for communication among the staff and the students rather than paper communication. WhatsApp - class wise groups, Department wise groups, Committee wise groups facilitate E-communication and use of public address systems reduces usage of paper in notices and circulars.

**Green Campus & Biodiversity:**

- The students and staff members are given strict instructions to maintain the campus clean and avoid the use of plastic in campus
- Several posters related to the importance of clean and green environment are displayed on the campus.
- Our college Peons alternately look after the maintenance of botanical garden, watering trees and waste free clean and Green Campus.
- College celebrates "The World Environmental day" on June 5th every year and by conducting competitions among students and also talks by eminent people to bring awareness.
- The plantation program includes plantation of various types of ornamentals, medicinal and wild plant species.
- "No Smoking, No Tobacco", Tobacco and tobacco products are strictly prohibited in the college premises. The instructions regarding this are given to the students and the staff members. The boards are displayed at various places in the college.

## 13.0 RECOMENDATIONS

- Formation of Environment Policy and communicated to all faculties and other staff members.
- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water monitoring need to be conducted by Maharashtra State Pollution Control Committee, approved laboratory with frequency of six month.
- Reduction in use of paper work by go digital system.
- Water Meter should be installed at institute for monitoring of water consumption for landscape.
- Increase in Environmental promotional activities for spreading awareness at campus.
- As practically feasible avoid use of personal vehicles inside the campus.





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## 14.0 CONCLUSION

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This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. The KACS College has Environmental Committee for sustainable use of resources. Overall 60% of university campus is for landscaping. The audit has identified several observations for making the campus premise more environment friendly. The recommendations are also mentioned with observations for campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are waste management records by monthly inventory of hazardous waste, rainwater harvesting recharge; water balance cycle and periodic inspection of buildings housekeeping and environment policy.

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## 15.0 REFERENCE

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- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices
- Internal Records of the Campus

## 16.0 SUMMARY OF ENVIRONMENT COMMITTEE

The Environment committee of KACS, aims to spread awareness amongst students regarding the natural environment that they are a part of it, and the impact of their everyday actions on it. We aim to protect the environment by spreading awareness to save energy, water, reducing use of disposable plastics, promoting reusable materials, planting saplings, etc. We believe that better world is not only within reach, but is being built today. We conduct environment friendly events which are not only intellectual, but also interactive and fun to attend. These include workshops, tree plantation drives, rallies, and online awareness campaigns, competitions such as Slam Poetry, Poster Making- online and offline and so on. The Society has also taken pride in being eco-friendly in every little way possible, starting from our paper free, online council elections. The Environment committee currently has over 989 students under its wing.

The Environment committee focuses on utilizing the power of social media platforms for spreading awareness regarding environment conservation and protection. It has an active WhatsApp, youtube and facebook page on which all the events of the society and environment related posts are uploaded time to time. Technology is used to a greater extent for communication among the staff and the students rather than paper communication. What'sapp - class wise groups, Department wise groups, Committee wise groups facilitate E-communication and use of public address systems reduces usage of paper in notices and circulars. 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.

### AWARENESS BUILDING CUM ACTION

Herbal garden	Medicinal plants planted	Learning about herbs cum gardening	Learning through action
Clear and clean KACS campus	Attempt to inculcate self help in cleanliness	Allotted spaces maintenance	To internalize 'no litter and no shame in picking up litter'
Effects of mobile phone radiation on health	Survey about mobile usage in KACS, Poster campaign; later activists to address issues	Currently awareness building	On green board
Effects of e-waste	Information campaign	To drive home good practices of disposing off e-goods	On green board



Environment committee identified and put-up nameplates of 96 different species of trees present in our college campus for developing awareness about diversity in nature. In continuation, this year a project on tree watch and tree mapping were carried out for 15 species. We found that our college has 5 Badam (*Prunusdulcis*), 10 Boganwel (*Bougainvillea glabra*) 5 Neem trees (*Azadirachta Indica*) and 4 Sagwan trees (*Tectonagrandis*).

#### *KEY ACTIVITIES - 2020-2021*

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- **18<sup>th</sup> March 2020**- For making college campus plastic free, poster presentation was organized by Department of Chemistry & Internal Complaint Committee. Signboards/Posters are displayed on the College campus for encouraging ideas of a plastic free environment. The college has displayed notice related to restriction of using plastic in college premises.
- **16<sup>th</sup> March 2021**- In KACS college NSS, Botany and other departments are always enthusiastic for tree plantation. Generally, whenever guests visit to college, they plan for tree plantation with their auspicious hands. Also, Internal Complaint committee had organized tree plantation program by women of local area to bring environment awareness among them. Students also deliberately participate in tree plantation whenever they get chance.
- **8<sup>th</sup> March 2021**- Organized Health awareness program for School Students. In COVID 19 Pandemic period to make school girls aware of COVID related health issues and menstrual health issues a Health awareness program was organized by the department. More than 50 students had participated in this program. This program was conducted in collaboration with District Health Office Beed. Incharge officer of Rashtriya Kishore Swasthya Karyakram, Dr. Santosh Haranmare guided students about the health issues of Adolescents and care to be taken during COVID 19 period.
- **23<sup>rd</sup> March 2021**- A group counselling session for junior college students was organized regarding Nutrition awareness of Nutritional needs during Covid 19 period. On 20 March 2021at Kalikadevi Junior college Shirur Kasar. This interaction program was also conducted at Navgan Junior College Rajuri, Beed.

- **7<sup>th</sup> Aug 2021**- One to seventh August is celebrated as World Breastfeeding Week. On this occasion various initiatives are being taken by the home science department health care center of college to educate the rural uneducated and ignorant poor women about the importance of breastfeeding. As a part of this, a visit was made to Garwadi Vasti, Ashok Nagar and lactating women were made aware of importance of breast feeding for women and child with the help of chart posters and calendars.

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## 17.0 ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS

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Rain water that is collected in ground of college campus is diverted towards percolation tank to recharge borewell.





**Overhead Water storage - With cleaning frequency and distribution system in the campus**

There are Five Syntax Water Tanks on the Roof of college, of which 2 tanks are of 2000 lit. and 3 are of 1000 lit. Water from these tanks is distributed to various laboratories, departments, washrooms and water filter through pipelines.



### Water distribution to plants by Drip Irrigation



### Solid Waste Management in college:

Facilities in the Institution for the management of the following types of degradable and non-degradable waste

- For Solid Waste Management One in 72 sq. ft. Dual Bio composting Tumbler is prepared on back side of the college.
- Vermicompost Bed is also built for Solid waste management of garden



### Dustbins kept to collect the solid waste:



### Local Municipality Vehicle collect the Solid waste:







Environment based various types' awareness programs celebration:



Tree Plantation by students, teachers and Guests:





Beed, Maharashtra, India  
 3CGH+JHV, Maharashtra 413249, India  
 Lat 19.06631°  
 Long 75.429911°  
 24/03/21 10:36 AM



Display of Environment related posters in college campus:



Beed, Maharashtra, India  
 Unnamed Road, Maharashtra 413249, India  
 Lat 19.066134°  
 Long 75.429638°  
 31/07/21 06:52 AM



Shirur Kasar, Maharashtra, India  
 8C8H+JFQ, Shirur Kasar, Maharashtra 413249,  
 India  
 Lat 19.06682°  
 Long 75.429649°  
 25/04/21 12:46 PM





Sign Boards in College Premises:





Health and Safety measures used in college:



तात्काळ फोन नंबर	
पोलीस स्टेशन	02828-249439
प्रा. आरोग्य केंद्र	02828-249707
बस स्टॅन्ड	02828-249440
दामिनी पधक	८६६९३०९३०९
फाघर त्रिगेड	९०९
अॅम्ब्युलन्स	९०८, ९०२



Specious and ventilated Class rooms:



Landscaping and Tree Plantation in college premises:







### Medicinal Plants:





Ornamental Plants:





Identification of plant species in college campus:



Medicinal plants in Botanical Garden			
Sr. No.	Local Name	Botanical Name	No of plants
01	Adulsa	<i>Justiciaadhatoda</i>	2
02	Jaswand	<i>Hibiscus rosa-sinensis</i>	1
03	Mehandi	<i>Lawsonialnermis</i>	1
04	Aawala	<i>Phyllanthusemblica</i>	2
05	Anjeer	<i>Ficus carica</i>	1
06	Limboni	<i>Limoniaacidissima</i>	1
07	Idlimbu	<i>Citrus jambhiri</i>	1
08	Nagdaman	<i>Artemisia nilagirica</i>	1
09	Pandharingni	<i>Solanumsurattense</i>	1
10	Panphuti	<i>Bryophyllumpinnatum</i>	2
11	Mango	<i>Mangiferaindica</i>	1
12	Karipatta	<i>Murrayakoenigii</i>	1
13	Shevga	<i>Moringaoleifera</i>	1
14	Tulas	<i>OcimumTenuifloram</i>	3
15	Dalimb	<i>Punicagranatum</i>	1
16	Gulwel	<i>Tinosporacardifoliya</i>	1
17	Arjun	<i>Terminaliaarjuna</i>	1
18	Korphad	<i>Aloe vera</i>	2
19	Aswagandha	<i>Withaniasomnifera</i>	1
20	Shatawari	<i>Asparagus racemosus</i>	1
21	Tuti/ Shahatut	<i>Morus alba</i>	1
22	Onions	<i>Allium cepa</i>	1
23	Papaya	<i>Carica papaya</i>	3
24	Shitaphal	<i>Annonasquamosa</i>	2
25	Lahasun	<i>Allium sativum</i>	1
26	MakadShindoli	<i>Carallumafimbriata</i>	1
27	Nagwel	<i>Piper betle</i>	2
28	Pudina	<i>Menthapiperita</i>	1
29	Adrak	<i>Zingiberofficinale</i>	1

30	Coconut	<i>Cocosnucifera</i>	4
31	GavatiChaha	<i>Cymbopogoncitratus</i>	1
32	Aaghada	<i>Achyranthesaspera</i>	1

**Ornamental plants in Botanical Garden**

Sr. No.	Local Name	Botanical Name	No of plants
01	Silver oak	<i>Grevillearobusta</i>	4
02	Decoration Fox-Tall Palm	<i>WodyetiaBifurcata</i>	4
03	Boganwel	<i>Bougainvillea glabra</i>	10
04	Indian Christmas		4
05	Ashoka	<i>Saracaindica</i>	4
06	Sita Ashok	<i>Saracaashoka</i>	2
07	Parijatak	<i>Nyctanthesarbortristis</i>	2
08	Kewada	<i>Pandanusodorifer</i>	1
09	Chandipat	<i>Tabernaemontanadivaricata</i>	1
10	Lavang Plant	<i>SyzygiumAromticum</i>	1
11	Bakul	<i>Mimusopselengi</i>	1
12	Cluster Palm	<i>Caryotamitis</i>	2
13	Costal Palm	<i>Allagopteraarenaria</i>	2
14	Areca Palm	<i>Dypsislutescens</i>	2
15	Supari Plant	<i>Areca catechu</i>	2
16	Money Plant	<i>Epipremnumaureum</i>	1
17	Morpankhi plant	<i>Platyclusorientalis</i>	2
18	Cycus	<i>Cycasrevoluta</i>	1
19	Nilikaticoranti	<i>Barleriaprionitis</i>	2
20	Yellow Croton plants	<i>CodiaeumVariegatum</i>	2
21	Krushna kamala wel	<i>PassifloraIncarinata</i>	1
22	Kardali	<i>Canna indica</i>	1
23	Ixora Pink plants	<i>Ixorajavanica</i>	2
24	Tagar white double	<i>TabernaemontanaDivaricata Double</i>	2

25	Madhumaltiwei	<i>Combretum indicum</i>	2
26	Iberis Amara white	<i>Iberis amara</i>	2
27	Gaudichaudi (Yellow)	<i>Tecoma Gaudichaudi</i> / Yellow Bells	1
28	Chafa (Red-yellow)	<i>Plumeria obtusa</i>	1
29	Kenna		2
30	Oxycardium, Heart leaf plant	<i>Philodendron hederaceum</i>	1
31	Bottle Palm tree	<i>Hyophorba lagenicaulis</i>	4
32	Bonsai Bottle palm with Trunk	<i>Hyophorba lagenicaulis</i> (Bonsai)	1
33	Table/ Umbrella palm	<i>Livistona rotundifolia</i>	2
34	Adenium Pink Bonsai	<i>Adenium obesum</i>	2
35	Red Espoma Cactus plants	<i>Espoma Cactus</i>	1
36	Henry's red Rhododendron plant	<i>Rhododendron monrovia</i>	1
37	Ficus Benjamina plant's	<i>Ficus Benjamina</i>	1

**Wild plants in Botanical Garden**

Sr. No.	Local Name	Botanical Name	No of plants
01	Bambu	<i>Bambusa vulgaris</i>	4
02	Gajga	<i>Caesalpinia bonduc</i>	2
03	Shoesham	<i>Dalbergia sissoo</i>	4
04	Sagwan	<i>Tectona grandis</i>	4
05	Nitagar		2
06	Tarwat	<i>Peltophorum pterocarpum</i>	5
07	Kadu limb	<i>Azadirachta indica</i>	5
08	Babhul	<i>Vachellia nilotica</i>	2
09	Aapla	<i>Bauhinia racemosa</i>	1
10	Karanj	<i>Millettia pinnata</i>	1
11	Hirda	<i>Terminalia chebula</i>	2
12	Mahogany	<i>Swietenia mahagoni</i>	2



13	BhediVruksha	<i>Thespesiapopulnia</i>	2
14	Arjun	<i>Terminaliaarjuna</i>	1
15	English Chich	<i>Pithecellobiumdulce</i>	2
16	Chinch	<i>Tamarindusindica</i>	2
17	Badam	<i>Prunusdulcis</i>	5

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*TRANSPARENCY OF GREEN AUDIT REPORT*

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*Green audit report is one of the useful means of demonstrating an organization/Institution's commitment to openness and transparency. If an Institute believes it has nothing to hide from its stakeholders, then it should feel confident enough to make its green audit reports freely available to those who request them. As a basic rule, green audit reports should be made available to all stakeholders.*

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ENERGY MANAGEMENT ASSESSMENT  
(2020-2021)



**ADARSH SHIKSHAN SANSTHA BEED'S,  
KALIKADEVI ARTS, COMMERCE AND  
SCIENCE COLLEGE,  
SHIRURKASAR. TQ- SHIRUR(KA), DIST- BEED,  
MAHARASHTRA.**

(Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.))



# Energy Audit Certificate

IS PRESENTED TO: "Adarsh Shikshan Sanstha Beed's"  
*Kalikadevi Arts, Commerce & Science College, Shirur  
(Kasar), Tq-Shirur(Kasar), Dist-Beed, Maharashtra.*

The assessment was carried out as per the criteria VII mentioned in NAAC for the college campus during 25th to 27th March 2021. It was found that campus as a whole unit was committed to energy conservation, energy saving measures and demonstrated through its various implementations along with well-structured Environment Policy. We wish all the best for all the future endeavors.

AET/KACS/20-21

Date- 30<sup>th</sup> March 2021



**Mr. R. S. Shinde**  
CO-AUDITOR



**Dr. Swapnil Sheth**  
AUDITOR



## 1. Introduction

### COLLEGE INTRODUCTION:

#### **KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE, ShirurKasar.**

Adarsh Shikshan Sanstha is a rural voluntary service organization. It was established by the contribution of authentic members with the motive of "Social Development" in Taluka- ShirurKasar Dist. Beed state Maharashtra. Kalikadevi Arts, Commerce and Science College, ShirurKasar, run by Adarsh Shikshan Sanstha, Beed was established in January 2002 by Honorable late Kesharbai Sonajirao Kshirsagar Alias Kaku (Ex. Member of Parliament), with noble and foresighted vision to provide higher education to youth of rural areas. The College is affiliated to Dr. Babasaheb Ambedkar Marathwada University Aurangabad. The college provides three programs; at UG level i.e., Arts, Commerce and Science and two programs of PG level M.A. English and M.Com. The college has also introduced, Tourism and Service Industries course from academic year 2020-2021. UGC has recognized the institution with 2(f) and 12(B).

The cardinal objective of the institution is to create good citizens with social, economic and political responsibilities to meet the global challenges. The vision and mission of the college is to empower and elevate the rural community and to promote a unique learning experience. The Principal deeply involves various day-to-day and academic activities for building social responsibilities among the students.

Surrounded by extensive green cover of nature, the college has an aesthetic landscape which is architecturally striking. The institution has a well maintained, user friendly and resilient infrastructure conducive for teaching, learning and comprehensive development of students, faculty and stakeholders. The college provides various facilities like sports, library, canteen, consumer store (GrahakBhandar), pure drinking water cooler, ICT hall, well-furnished teaching halls, well equipped laboratories indoor game facilities, health care center and competitive examination coaching classes' center for students of college and other stakeholders. College arranges study tours to places of historical and geographical importance, visits to various study centers, and industries. College always tries to arrange various Co-curricular and extracurricular activities like elocution competition, essay writing speech events science exhibition etc. The NSS and Life Long Learning and Extension department conducts society-oriented programs like blood donation camps, eco-

friendly awareness, rallies, cleanliness camp, national integration camp, tree plantation, literacy program etc. Student mentoring system is also available in the college to solve the student's personal and social problems.

College has achieved Best NSS Unit Award and Best NSS Program Officer Award twice. College had portrayed Kerala Flood Disaster for Road Rally in Central Youth Festival of Dr. Babasaheb Ambedkar Marathwada University Aurangabad and acquired 1st Prize for it for academic year 2018-2019. Also, College got 3rd Prize in the same event for academic year 2019-2020 by portraying Pulvama Attack Event. Other than that, faculty members had also received awards in different fields of education.

With a proper Vision and Mission, we, as an Institute are striving to give quality Education, Ethics and Morals to students and looking forward to give as much as they can.

## **1. COLLEGE VISSION & MISSION:**

### **VISION**

"The institution has a right aim, which leaves no room for covetousness or indulgence but encourages everybody for development of self and society."

### **MISSION**

- To mentor and inculcate social moral values in students and empower them towards a nation building activity.
- To cultivate feeling of social bonding and development among students through different intervention and entrepreneurship program of college.
- To promote an environment of academic excellence through development of human potentials.
- To inspire and ignite young minds creative thinking and innovative ideas with proper livelihood earned by pure and honest means that would help them to succeed in their career.
- To create a platform for students to feel free to point out their problems, general drawbacks and limitations.

### **1.1 Goals and Objectives of Perspective Plan**

Considering the SWOC analysis of the college they are trying their best to overcome the weakness and challenges and generate new opportunities for college and student development by imparting quality and innovative education in Arts, Commerce and Science field and fulfill their Motto. For this IQAC has identified the following perspective plan:

#### **Short Term Goals**

- To uphold continuous academic performance;
- To inculcate offline and online effective teaching learning process.
- To make more transparent and credible process of students' evaluation.
- To develop student mentoring system more effective.
- To enhance innovative research culture in faculty and students.
- To launch value added and skills development programs improving the employability of students.
- To motivate students for self-employment and to enable them to emerge as entrepreneurs.
- To make faculty powerful for emerging trends.
- To organize necessary trainings and workshops for Non-teaching staff members.

#### **Long Term Goals**

- To Establish MOUs and Linkages with National and International Institutes.
- To Submit Minor/Major Projects to UGC and Other Funding Agencies.
- To develop more Smart Class Rooms.
- To Introduce Vocational And Skill Based Add On Courses.
- To Develop Green Campus.
- To Increase Student Placement Rate.
- To organize offline National / International Seminars/Conferences/Workshops/Symposia
- To introduce new PG Courses.
- To augment Library management and office administrative system and make it fully computerized and library space and resources to be increased.



## 1.2 Perspective Plan

- MOUs and linkages will be established on institutional and department level with the institutes of National and International level.
- Staff members will be motivated to submit Major and Minor Research Projects to UGC and other funding agencies.
- Steps will be taken to build up more ICT facilities in college.
- Measures will be taken to introduce new B.Voc and Certificate courses.
- Green/Environment and Energy Audit of campus will be conducted on regular intervals.
- Placements will be organized for students by inviting reputed companies.
- Proposals for offline National and International Seminars/ Conferences and Workshops will be submitted to different funding agencies and University.
- Essential software will be purchased to make office and library more efficient.

KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE, ShirurKasar. demonstrates its commitment to implement sustainable solutions in different ways. It has taken a number of positive steps to reduce possible environmental impact. The management is keen on accepting new ideas of resource management.

This report can be a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects." In view of making green and eco-friendly campus the organization has taken an important step to understand the environmental parameters within the campus. This report serves to highlight, the efforts towards greener campus. The first step taken in this direction is establishing a baseline of existing condition.

An energy audit is an inspection and analysis of energy flows in a building with the objective of understanding the energy efficiency of building being audited. Typically, an energy audit is conducted to seek opportunities to reduce the amount of energy used by the facility without negatively affecting the comfort of the facility or the production/output in case of a business. This includes identifying the systems and areas of opportunity that will have the greatest impact in improving comfort, indoor air quality, durability & reliability.

## 2.1 Campus planning and construction

### Energy Conservation

The college campus has planned in 10119.19 Sqm. quite significantly that, there is enough open space, greenery, playground total and 14 ventilated spacious classrooms, 1 sport auditorium and 1 seminar hall to accommodate students. The build-up area is 3259.76 Sqm. The energy utilization pattern of college on any working day is as follows.

#### Instructional Area:

SN	Room Type (Mention Class Room/ Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification and Lighting
1	Classrooms	Yes	Yes	Yes
2	Seminar Hall	Yes	Yes	Yes
3	Laboratory Physics	Yes	Yes	Yes
4	Laboratory Chemistry	Yes	Yes	Yes
5	Laboratory Botany	Yes	Yes	Yes
6	Laboratory Math's	Yes	Yes	Yes
7	Laboratory Computer	Yes	Yes	Yes
8	Laboratory Zoology	Yes	Yes	Yes
9	Laboratory Home science	Yes	Yes	Yes
10	Sport Department	Yes	Yes	Yes
10	Examination department	Yes	Yes	Yes

#### **Administrative area:**

SN	Room Type (Mention Class Room/ Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Central Store	Yes	Yes	Yes
2	Faculty Room	Yes	Yes	Yes
3	Security	Yes	Yes	Yes
4	Cabin for Head of Dept	Yes	Yes	Yes
5	Office All Inclusive	Yes	Yes	Yes

**Amenities area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Canteen	Yes	Yes	Yes
2	Girls Common Room	Yes	Yes	Yes
	Boys Common Room	Yes	Yes	Yes
3	Toilet	Yes	Yes	Yes
4	First aid cum Sick Room	Yes	Yes	Yes
5	Sport Auditorium	Yes	Yes	Yes
6	Seminar hall	Yes	Yes	Yes

**Circulation Area:**

SN	Room Type (Mention Class Room/Lab/Toilet, etc.)	Completion of Flooring	Completion of Walls and Painting	Completion of Electrification & Lighting
1	Corridors	Yes	Yes	Yes
2	Staircases	Yes	Yes	Yes

**Electricity utilization pattern**

Activity	Utilization
Classroom - 14, Departments - 8, Laboratories - 5, Computer lab & all Departments, Admin block, Principal office etc., Auditorium, Exam Section, Boys & Girls	AC - , Fan-49, Wall fan -0, LED Tube light - 45, LED bulb - 38, Corridors & Common area lights - 10, Computers - 41, Printers - 8, Server - 1, Xerox machine - 1, Scanner - 4, Projector - 1, Refrigerator- 1, Auto clave-, Microwave-, water



common room, Sick room, Library etc.	Purifier - 1, Water Cooler - 1, Water Pumps - 1, CCTV - 8,
--------------------------------------	--

S.No	Activity	Utilization	Total units.
1	Classroom 14	1 Tubes, 1 Fans, /class	2 units approximately
2	Departments - 12	1 Tubes, 1 Fans, 1 computer/department + printer, Xerox machine	units approximately
3	Laboratories - 6	Laboratory instruments: Hot air oven-, Centrifuge-1, Incubator- , Hot plate- 1, Exhaust fan-1 , Fridge- 1 printer	6 units approximately
4	Computer lab	Computers-26, server-1, UPS, Printer-6, Projector- 1 , Inverter Batteries- etc.	8 units approximately
5	Admin block	Tubes, Fans, /section + computer-2, printer-2, Inverter- 4, Xerox machine-1, Inverter Batteries- 4	5 units approximately
6	Water supply pumps, water cooler, bore-well water filter, CCTV-8, Common lights	Pumping and circulation water in the campus	4 units approximately
			<b>25 units approximately</b>

**Action:**

- 1) As per the structure of the building the chemistry laboratories are placed in such a way that hazardous fume discharges outside the building.
- 2) Height and size of the windows in classrooms and laboratories provide adequate ventilation. There is no heat trapping mechanism and glare due to excessive use of glass in the campus.
- 3) There is less construction cost due to well-designed structure. Interaction space for the students is maintained, thus utilizing the optimum space.
- 4) There is consideration for disaster management.
- 5) Strictly turning of monitors, fan, tube lights, and laboratory instruments after the work.

6) Organizing lectures on energy conservation in order to give awareness to the students.

7) Perhaps the most significant improvement has been the general switch from CRT (cathode ray tube) monitors to LED (Light Emitting Diode display)/flat panel display monitors. This change occurred in response as an initiative for meeting Kyoto Protocol standards. Although over twice as expensive up front, LCD monitors are estimated to use 40-60% less energy overall than CRTs.

- 1) All computers purchased by the college have an Energy Star rating, which is beginning to be a standard requirement for computers.

Retired computers and other equipment are sent to e-storage room and then it is collected by vendor.

- 2) During practice session for computer course the printouts being taken on one sided used paper.
- 3) All tubes and bulbs being used of LED types
- 4) Due to ample cross ventilation and windows, there is very less electricity consumption during day time.
- 5) Newly installed street solar lamp on experimental basis.

#### **Conclusion:**

The findings of this report show that the college performs fairly well on sustainability issues. The college does consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. In conversations with faculty, staff, and administration at the college, a major theme has been the improvements made over the last many years in how the college performs environmentally.

**Energy efficiency is the need of future.** The organization shows a potential to become energy efficient institution, which can be collective step toward the direction of renewable energy, environmental protection, and sustainable living. Having such an organization helps management reduce their bills and provides an excellent investment.

**Suggestion:**

Routine energy auditing will help organization to

- (i) Map energy usage within the organization
- (ii) Conserve energy,
- (iii) Improve energy efficiency and thereby
- (iv) Maximize their institutional energy and cost savings.

**Annexure**

**Energy Policy**

KALIKADEVI ARTS, COMMERCE AND SCIENCE COLLEGE is dedicated to the responsible and sustainable consumption of energy. We dedicated ourselves for

- Reduction of energy costs in the premises.
- Reduction of dependability on exterior energy sources.
- Reduction of environmental damage and pollution.
- Reduction of damage to the environment associated with the exploitation of resources
- Reduction of energy bills.
- Increase the life span of the equipment in college premises.
- Increase in cost-effectiveness through optimization of energy expenditure