

S.T.E.S & Co-Op Education Society Ltd.
Science Senior College Shahada, Dist. Nandurbar
(Maharashtra)



GREEN AUDIT REPORT

Academic Year

2016-2017 To 2018-19



PREPARED BY

**Vanashree Farmer Producer Company Ltd.,
Plot No 1 Gangotry, Old Mohida Road,
Shahada Dist. Nandurbar (Maharashtra)
(Reg. No – CIN-U01400MH2016PTC272605)**

Vanashree Farmers Producer Company Limited



Reg. No. CIN-UG1400MH2016 PTC272605

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Date: - 18 / 03 / 2019

CERTIFICATE

Green Audit Certificate

Academic Year 2018-2019

This is to certify that S.T.Co.Op Education Society's Ltd, Science Sr. College Shahada Dist: Nandurbar has good environmental climates are created for saving earth nature, for this appreciable work our "Vanashree Farmer Producer Company Limited,," satisfied and successfully completed green audit with moral support of principal, staff and volunteers for academic year 2018-2019

Thanking You..!

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Chairman
Green Audit Committee

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S.T.Co. Op.Education Society's Ltd.
Science Senior College, Shahada Dist Nandurbar
GREEN AUDIT COMMITTEE

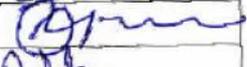
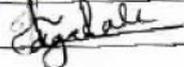
Sr.No.	Committee Members	Designation	Signature
1	Dr. S. D. Patil	Chairman	
2	Asst. Prof. Bhushan P. Nikam	Coordinator	
3	Asst. Prof. Anil R. Patil	Member	
4	Dr. Deepali M. Gawande	Member	
5	Asst. Prof. Anil R. Jagdale	Member	



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1. Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development S.T.Co.op Education Society's Ltd, Science Sr. College, Shahada is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher learning, the college has initiated 'on environment related program last few years back and run special subject its compulsory for F.Y.B.Sc student that actively promote the various projects for the environment protection and sustainability.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The methodology include: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks. The area of the college premises is 2.59 acres out of which maximum area covered by trees, plants etc. The tree census was carried out by NSS volunteers.

In the present audit report most of the aspects are covered such as tree plantation, awareness about environment programme of the programme evaluated by experts clean college green campus is the motto of our college and the college has already taken some steps to protect the environment with help of college staff and students under the guidance of Principal Dr. Sandip A.Marathe, college giving the green audit report.

2. Introduction

Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

Green audit is assigned to the criteria 7 of NAAC, National Assessment and Accreditation Council which is a self governing organization of India which declares the institutions as Grade A, B or C according to the scores assigned during the accreditation.

1.1 About the College

S.T.Co-Op. Education Societies Ltd Science Sr.College Shahada Nandurbar, Maharashtra is a NAAC (B) Grade 16 years young college having only one faculties - Science (Computer Science and Biotechnology) The college is located on a beautiful campus of 2.59 acres. The college main building is as norms of government policies to build it. There are separate laboratory of Chemistry, Botany, Zoology, Biotechnology, Computer Science, Physics and Electronics.

The college has also adopted the 'Green Campus' system for environmental conservation and sustainability. There are main three pillars i.e. zero environmental foot print, positive impact on occupant health and performance and 100% graduates demonstrating environmental literacy. The goal is to reduce CO₂ emission, energy and water use, while creating an atmosphere where students can learn and be healthy. The 'Green Campus' has been active since last few years both as an assembly group of sub committees that actively promote the various projects. The college administration works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity.

3. Objectives of the Study

The main objective of the green audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To introduce and aware students to real concerns of environment and its sustainability
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.
- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
- To bring out a status report on environmental compliance

4. Adapted Methodology

In order to perform green audit report of the campus, the team has adopted the following methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation data analysis, Discussion with the staff members interviewing key persons and data analysis, measurements and recommendations. The study covered the following areas to summaries the present status of environment management in the campus:

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

Spot Visit – As the physical inspection of the college for the green audit green audit is very important, so the green audit team is started the audit during the period in basically September month by the census of plants in the college campus, vehicle, counting the electricity consuming elements, lightening elements, resources of water, water harvesting mechanism implemented in college campus with support of NSS volunteers

College building and office building survey –

After the surveying of college building, offices, laboratories the data was collected such as, light bills, power consuming elements in the office, laboratories, labs, also the renewable energy sources such as solar cell

Carbon Footprint:

College arranges group discussion programs with the NSS volunteers, staff members and discussion was held on the initiative taken by the college towards the environmental issues such as protection of environment, regarding plantation of trees, arranging rally's and awareness programs about the environment at the college level and society level

Focusing on following issues

- Plantation and conservation of plants
- Water conservation
- Use of renewable energy sources
- Solid waste management
- Plastic free campus

5. Observations and Recommendations

Water Use

This indicator addresses water consumption, water sources, irrigation, storm water, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

a) Observations

The study observed that boar Well are the major sources of water. Water is used for drinking purpose, toilets, laboratory and gardening. During the survey, no loss of water is observed, neither by any leakages, nor by over flow of water from overhead tanks. The data collected from all the departments is examined and verified. On an average the total use of water in the college is 5,000 L/day, which include 2,000 L/day for domestic purposes, 2,000 L/day for gardening and 1,000 L/day for different laboratories.

One rain water harvesting units are also functional for storing and reuse. Gardens, domestic purposes, laboratory works by using system to save water. This is one of the unique steps towards greening practices.

b) Recommendations

- Need of monitoring, controlling overflow is essential and periodically supervision drills should be arranged. In campus small scale reuse and recycle of water system is necessary.
- Minimize wastage of water and use of electricity during water filtration process, if used, such as RO filtration process and ensure that the equipment's used for such usage are regularly serviced and the wastage of water is not below the industry average for such equipment's used in similar capacity.
- Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. are biodegradable and non-toxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations

Energy Use and Conservation

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



Solar Cell

a) Observations

Energy source utilized by all the departments and common facility centre is electricity only. Total energy consumption is determined per day 25 Units or in 5000 W and annually 9125 Units and 1825 KW in 1 year by major energy consuming equipments.

All the departments and common facility centers are equipped with LED lamps. Approximately 50 LED Tubes (Capacity) for each 50 W are counted during survey. Besides this, photovoltaic /solar cells are also installed in the campus as an alternate renewable source of energy. Equipments like Computers are used with power saving mode. Also, campus administration runs switch –off drill on regular basis. In science department like Physics,

Chemistry, Biotechnology, Electronics, Computer Science, Botany and Zoology electricity was shut down after occupancy time is one of green practices for energy conservation.

b) Recommendations

To rise maximum LED lights and power saver instruments.

Waste Generation

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc and recycling. Furthermore, solid waste often includes wasted material resources that could

otherwise be channeled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus. The different solid wastes collected as mentioned above.

a) Observations

The total solid waste collected in the campus is 05 Kg/day. Waste generation from tree droppings is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for different colors and it separates dry and wet solid and also separate Bio-degradable and Plastic waste. Segregation of chemical waste generated in chemistry and zoology laboratories is also practiced. Single sided used papers reused for writing and printing in all departments. Very less plastic waste (0.1Kg/day) is generated by some departments, office, garden etc but it is neither categorized at point source nor sent for recycling. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing. Few glass bottles are reused in the laboratories. The food waste is used or sent for vermicomposting.



Vermicomposting Project

The institute has adopted vermiculture composting in culture house on 56 sqft. land. The main purpose of this is to reduce disposable waste in the college campus. After complete process of vermicomposting, it is used as manure in the botanical garden. Awareness program among farmers is also conducted in the village nearby.

b) Recommendations

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

E-Waste Generation

E-waste can be described as consumer and business electronic equipment that is near or at the end of its useful life. This makes up about 5% of all municipal solid waste worldwide but is much more hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment.

a) Observations

E-waste generated in the campus is very less in quantity. The cartridges of laser printers are refilled outside the college campus. Administration conducts the awareness programmes regarding E-waste Management with the help of various departments. The E- waste and defective item from computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facility in order to dispose E-waste in scientific manner.

b) Recommendations

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

6. Green spots in campus

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 programmes. The college campus is covered with the various species of the plants and maintained by the gardener all time. In point of view of importance of the study of plant species the botanical garden is developed and well maintained by the botany department. Which contains the different types of species of plants.

Botanical garden:

The botanical garden is maintained by botany department which is having the various medicinal plants species, ornamental plants species, flowering plants species, (osmium plant, hibiscus recimosa, cycus) etc.

In front of office building:

The front side of the office building is developed with Saraca asoca trees, bottle palm, Azadirecta indica etc.

Parking area:

In parking area Azadirecta indica, Cassia species.

a) Observations

Campus is located in the vicinity of approximately types (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 environment which provides pure oxygen within the institute and awareness among villagers. The plantation program includes various type of species of ornamental and medicinal plant species.



Ornamental plant species.



b) Recommendations

- Reviews periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Give scientific names to the trees.
- Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service.
- Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.
- Establish a College Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Celebrate every year 5th June as 'Environment Day' and plant trees on this day to make the campus more Green.
- Plant exhibition arranged regularly in college campus.

7. Tree Census

The census of the trees in the campus were done for the academic year 2017-2018 and is found that the college campus has maintain the bio diversity of the plants. It is found that more than 256 tree are in the campus which can be categorized in various types such as garden plants, crops, climber, trees, shrubs, which are having the environmental, educational, medicinal importance.

In the census the plants are categorized in to three types

Types of plants	Number of plants
Full-grown trees	176
Medium grown trees	76
bushes	4



8. Tree plantation in the campus

Tree plantation is the major tools to control the air pollution and maintain the environmental balance. It is found that one fully grown trees absorbs 6.8 kg carbon dioxide CO₂ at the same time it gives oxygen gas more than 6.8 kg. It shows the importance of plantation and conservation of trees.

Every year planted trees growing responsibility and conservation of that plant is given to each volunteer of the NSS. After plantation each volunteer take the responsibility of one plant of its care. NSS unit organized environmental awareness programmes time to time. During the festival season the volunteer creates the awareness among the people to stop or reduce the water pollution, noise and air pollution. During the ganpati festival volunteer collected ganpati statues which help to reduce the water pollution.



9. Campus measurement

Our Science Senior College is in Shahada Tehsil. The college has performing well in the all dimension. Total area of college campus is near about 2.59 acres with the green area, botanical garden and play ground.

The college consists library, office, classroom, parking facility and play ground. The campus of the college and fill with all facilities for the students such as large and specious classrooms, well equipped laboratory, girl's common room etc.

Sr. No.	Particulars	Sq. Ft.
1	Office	468
2	Principal office	432
3	Staff room	432
4	Classrooms	589.90 (10 classrooms)
5	Science Laboratories	796.296 (6 Labs)
6	Computer Lab with internet	797.48(2 Labs)
7	Seminar Hall	1889.07
8	Library	1206.23
9	Reading Room	589.90
10	Girls Room	281.44

10. Vehicle survey and carbon foot print

The main source of the air pollution is vehicle. The element which are responsible for the air pollution, emitted from the vehicles which are carbon dioxide, carbon monoxide, nitrogen oxide, hydrogen, ammonia, sulphur dioxide, these are the poisonous for the human health this element effect bad on the human health and other living animals and also damage the ecosystem. As the vehicles on the roads are increasing day by day, on other hand population of the world and our nation is increasing, this leads into the increase of air pollution. Use of vehicle introduce several products which are waste and harmful for the ecosystem imitates in the environment and this causes the environmental pollution. So that the air pollution is the biggest problem issue in the world.

Staff members and students uses the number of vehicles for the transportation. These leads to the air pollution. But to overcome this big problem of pollution college has adopted the systematic policy of transportation. The most of students are from outside of the town and they use the public transport for the transportation. Student from the town preferred the use of bicycle mostly the girl student's used bicycles. As the college is near to the bus stand student used to walk to college. Staff members of the college and visitors uses the cars or bikes or auto rickshaw and some staff member uses bicycles.

To manage the transportation system the college has adopted some policies such as the college staff member uses the sharing transport system. Most of student used bicycles colleges taken one another step toward the reduction of carbon foot print that, college celebrates the vehicle free day on this day students and staff member uses the state transport system.



a) Absorption of Carbon

According to the report of NGO DELHI GREENS, the economic value of full grown tree with aspect of oxygen producing capacity is nearly equal to Rs 23.72 Lakh per year. According to the reports given by the NGO “economic valuation of oxygen supplying ecosystem service of healthy tree”, their claim is based on facts that an average adult at rest inhales nearly 7-8 liters of air per minute, which means about 11,000 liters per day, of which about 20% is oxygen and nearly 15% is exhaled. For human consumes about 550 liters of pure oxygen per day. Based on the market survey, it is found that the average cost of 2.75 portable oxygen cylinders is of Rs. 6500, at this rate human consumes oxygen worth about rupees 13 lakh per day.

By taking some consideration the following numbers comes out,

As the Tectona Grandis (Sagwan) is most carbon consuming tree, let take an example,

- In 01 acre the number of full-grown sagwan trees=500.
- Carbon absorption capacity of 500 trees=carbon emission during run of 25,000 miles.
- 25,000 miles=40223.6 km
- Diesel consumes by a car for 40233.6 km= 2011.68 ltr.
- The carbon emitted by a diesel car by consumption of 01 ltr of diesel is 2.68 kg.
- Thus carbon emitted by 2011.68 ltr is 5391.30 kg (2011.68 lts x 2.68 kg)
- The amount of carbon absorbed by the one full grown tree is $5391.30 \text{ kg}/500 = 10.7826 \text{ kg}$.

Absorption of carbon dioxide:

As the college campus having number of plants, trees. The huge amount of carbon dioxide is absorbed and converted in oxygen.

- College campus having 176 full grown trees there it absorbs $(176 \times 10.7826 \text{ kg}) = 1897.73 \text{ kg CO}_2$ or 1.89773 tons
- College campus having 76 semi grown trees and 04 bushes, therefore it absorbs half of full grown trees $(80 \times 5.391 \text{ kg}) = 431.28 \text{ kg CO}_2$ or 0.43128 tons.

b) Oxygen emission in the campus

According to the growing air foundation,

- Trees renew our air supply by absorbing carbon dioxide and producing oxygen.
- The amount of oxygen produced by an acre of trees per year equals the amount consumed by 18 people annually. One tree produces nearly 260 pounds or 117.934 kg of oxygen each year.
- One acre of tree removes up to 2.6 tons of carbon dioxide each year.
- Trees lower air temperature by evaporating water in their leaves.

Therefore the total oxygen emitted by the 176 full grown trees is $(176 \times 117.934) = 20756.384$ kg or 20.756 tons

By the semi grown trees is about (76×58.967) is 4481.9492 kg or 4.481 tons oxygen

The total oxygen emitted by the campus greenery is 25.237492 tons. Oxygen.

11. Conclusions

Considering the fact that the institution is predominantly an undergraduate college, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The installation of solar panels, paperless work system and vermin composting practices are noteworthy. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus & thus sustainable environment and community development.

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

College authority forms a committee for the plantation program and environmental awareness, this committee continuously work throughout the year with the help of NSS student. College appointed NSS students for the awareness of tree plantation.

One of the faculty Asst. Prof. Asha R. Patil Head of the department of computer to help for environment to prevent emission of CO₂ for using e-bike.

12. Acknowledgement

We are grateful to the committee members of S.T.Co.Op Edu. Society's Ltd Science Senior College Shahada to award this prestigious project and allowed us to enter the new era of Green Audit in the College Campus.

Further we sincerely thank the college staff for providing us necessary facilities and co-operation during the audit. This helped us in making the audit, a success.

Further we hope, this will boost the new generation to take care of Environment and propagate these views for many generations to come.

Environment Executive

13. Specimen of Survey forms

I

Green Auditing S.T.Co.Op Edu. Society's Ltd, Science Sr. College Shahada

Auditing for Water Management

1. List uses of water in your college.
2. What are the sources of water in your college?
3. How many wells are there in your college?
4. No. of motors used for pumping water from each well?
5. What is the total horse power of each motor?
6. What is the depth of each well?
7. What is the present depth of water in each well?
8. How does your college store water?
9. Quantity of water stored in your overhead water tank? (in liters)
10. Quantity of water pumped every day? (in liters)
11. If there is water wastage, specify why.
12. How can the wastage be prevented / stopped?
13. Locate the point of entry of water and point of exit of waste water in your
College.
14. Where does waste water come from?
15. Where does the waste water go?
16. What are the uses of waste water in your college?
17. What happens to the water used in your labs? Whether it gets mixed with ground
water?
18. Is there any treatment for the lab water?
19. Whether green chemistry methods are practiced in your labs?
20. Write down four ways that could reduce the amount of water used in
your college.
21. Record water use from the college water meter for six months.
22. Bimonthly water charges paid to water connections if any
23. No. of water coolers. Amount of water used per day? (in liters)
24. No. of water taps. Amount of water used per day?
25. No. of bath rooms in staff rooms, common, hostels amount
of water used per day?

- 26.No. of toilet, urinals. Amount of water used per day?
- 27.No. of water taps in the canteen. Amount of water used per day?
28. Amount of water used per day for garden use.
- 29.No. of water taps in laboratories. Amount of water used per day in each lab?
30. Total use of water in each hostel?
31. At the end of the period, compile a table to show how many litres of water have been used in the college for each purpose
32. Is there any water used for agricultural purposes?
33. Does your college harvest rain water?
34. If yes, how many rain water harvesting units are there? (Approx. amount)
35. How many of the taps are leaky? Amount of water lost per day?
36. Are there signs reminding people to turn off the water? Yes / No
37. Is there any waterless toilets?
38. How many water fountains are there?
39. How many water fountains are leaky?
40. Is drip irrigation used to water plants outside? YES/NO
41. How often is the garden watered?
42. Quantity of water used to watering the ground?
43. Quantity of water used for bus cleaning? (liters per day)
44. Amount of water for other uses? (items not mentioned above)
45. Area of the college land without tree/building canopy.
46. Is there any water management plan in the college?
47. Are there any water saving techniques followed in your college?
What are they?
48. Please share Some IDEA for how your college could save more water.

I

Green Auditing S.T.Co.Op Edu. Society's Ltd, Science Sr. College Shahada Auditing for Energy Management

1. List ways that you use energy in your college. (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others).
2. Electricity bill amount for the last year
3. Amount paid for LPG cylinders for last one year
4. Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?
5. Are there any energy saving methods employed in your college? If yes, please specify. If no, suggest some.
6. How much money does your college spend on energy such as electricity, gas, firewood, etc. in a month. (Record monthly for the year 2016, 2017, 2018).
7. How many CFL bulbs has your college installed? Mention use (Hours used/day for how many days in a month)
8. Energy used by each bulb per month? (for example- 60 watt bulb x 4hours x number of bulbs = kwh).
9. How many LED bulbs are used in your college? Mention the use (Hours used/day for how many days in a month)
10. Energy used by each bulb per month? (kwh).
11. How many incandescent (tungsten) bulbs have your college installed?
Mentions use (Hours used/day for how many days in a month)
12. Energy used by each bulb per month? (kwh).
13. How many fans are installed in your college? Mention use (Hours used/day for how many days in a month)
14. Energy used by each fan per month? (kwh)
15. How many air conditioners are installed in your college? Mention use
(Hours used/day, for how many days in a month)
16. Energy used by each air conditioner per month? (kwh).
17. How many electrical equipments including weighing balance are installed your college? Mention the use (Hours used/day for how many days in a month)
18. Energy used by each electrical equipment per month? (kwh).
19. How many computers are there in your college? Mention the use (Hours used/day for how many days in a month)
20. Energy used by each computer per month? (kwh)

21. How many photocopiers are installed by your college? Mention use
(Hours used/day for how many days in a month).
22. How many cooling apparatus are in installed in your college?
Mention use(Hours used/day for how many days in a month)
23. Energy used by each cooling apparatus per month? (kwh) Mention use
(Hours used/day for how many days in a month)
24. Energy used by each photocopier per month? (kwh) Mention the use (Hours used/day for how many days in a month)how many inverters your college installed?
Mentions use (Hours used/day for how many days in a month)
25. Energy used by each inverter per month? (kwh)
26. How many electrical equipment are used in different labs of your college? Mention the use
(Hours used/day for how many days in a month)
27. Energy used by each equipment per month? (kwh)
28. How many heaters are used in the canteen of your college ?
Mention the use (Hours used/day for how many days in a month)
29. Energy used by each heater per month? (kwh)
30. No of street lights in your college?
31. Energy used by each street light per month? (kwh)
32. No of TV in your college and hostels?
33. Energy used by each TV per month? (kwh)
34. Any other item that uses energy (Please write the energy used per month) Mention the
use (Hours used/day for how many days in a month)
35. Are any alternative energy sources/nonconventional energy sources employed /
installed in your college? (photovoltaic cells for solar energy, windmill, energy efficient
stoves, etc.,) Specify.
36. Do you run “switch off” drills at college?
37. Are your computers and other equipment put on power-saving mode?
38. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.)
run on standby mode most of the time? If yes, how many hours?
39. What are the energy conservation methods adapted by your college?
40. How many boards displayed for saving energy awareness?
41. How much ash is collected after burning fire wood per day in the canteen?
42. Write a note on the methods/practices/adaptations by which you can reduce the energy use in
your college campus in future.