

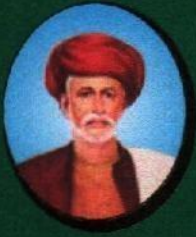


Rayat Shikshan Sanstha's  
**Mahatma Phule Mahavidyalaya, Pimpri, Pune**  
*Reaccredited with 'A' Grade by NAAC/ DST-FIST funded /An ISO 9001:2015 Certified College  
Affiliated to Savitribai Phule Pune University, Pune (PU/PN/ACS/053)*

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**2018-19**

**GREEN /  
ENVIRONMENT  
AUDIT**



Rayat Shikshan Sanstha's

# MAHATMA PHULE MAHAVIDYALAYA

PIMPRI, PUNE - 411 017.

Establishment : 1983

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Affiliated to Savitribai Phule Pune University, Pune.

Reaccredited by NAAC : 'A' Grade with CGPA-3.16



## GREEN AUDIT REPORT 2018-2019

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## Introduction

Educational institutes are the leaders in pursuing environmentally sustainable solutions. Rayat Shikshan Sanstha's Mahatma Phule Mahavidyalaya, Pimpri expresses its commitment towards sustainability in variety of ways. The college has conducted the internal green audit for the academic year 2015-16.

The institution has taken initiatives towards Conservation of Energy and conducted Energy Audit separately in 2015-16 by an external agency (Separate Energy Audit Report).

Mahatma Phule Mahavidyalaya comprises of two campuses (Campus I and Campus II). Environment Protection Club of Mahatma Phule Mahavidyalaya has conducted green audit of the college campus I in the academic year 2015-16. The area under study of Campus I is about 6070 sq. meters.

### Objectives of Green Audit:

1. To verify legislative and regulatory compliances for the green environment.
2. To find out the strengths and weaknesses of the environment systems available in the college campus.
3. To establish eco-friendly practices in the college campus and to identify environmental opportunities in the campus.

This is the first attempt to conduct green audit in the college campus. To get baseline data, questionnaires for use of water, hazardous wastes and paper waste were prepared as per the guidelines, rules, acts and formats set by Ministry of India, Central Pollution Control Board, New Delhi. The surveyors then visited all the departments of the college, interacted with the staff members, survey was and then questionnaires were filled. The data generated was used for further analysis. From the outcome of the study, a final report was prepared and then the final conclusions were drawn. SWOT (Strengths, Weaknesses, Opportunities and Threats) unit analysis was carried out and finally recommendations were made.

### The initiatives taken by the college to make the campus eco-friendly

- ✓ Energy conservation
- ✓ Awareness campaign
- ✓ Tree plantation
- ✓ Efforts for carbon neutrality

- ✓ Hazardous waste management
- ✓ E-waste management

**Energy Conservation:**

- Implementation of energy saving technique
  - ❖ Lights and fans are switched off after completion of work.
  - ❖ Shutting down of computers, electrical appliances when not in use.
  - ❖ Use of LED bulbs to generate less heat and reduce carbon emission.
  - ❖ The coolant water from the distillation plant in the science laboratories is reused.
- Design of our college is based upon the use of light and ventilation which saves power.

The wooden window shutters in the classrooms, library and office have been replaced by sliding glass windows which helps natural light let in even when they are closed.
- Awareness on energy conservation is projected in models and exhibits prepared by students from the Science Exhibition organized every year.

**Rain Water Harvesting and Water Conservation:**

- Chemistry Laboratory of our college collects rain water and uses it as mineral free water for routine practical's of UG Classes.
- Awareness lectures, Film show, etc.
- Students prepare models/miniatures on rain water harvesting.

**Carbon Neutrality:**

- Some of the efforts in this regard are as follows:
  - ❖ Use of public transport by faculty/staff and students on No Vehicle Day.
  - ❖ Car pooling
  - ❖ Tree Plantation
  - ❖ Offering saplings to greet the guests to honor
  - ❖ No Bouquets but books
  - ❖ Optimal use of paper by reusing
  - ❖ Plastic free campus.

**Hazardous Waste Management:**

- Hazardous chemicals are used in micro quantity for the practical's of chemistry and other science subjects where **Semi-Micro Analysis Technique** is used.
- Lab waste in chemical labs is disposed-off carefully by detoxifying.
- Bio-waste generated in Microbiology, Zoology and Botany Laboratories is destroyed by decontamination and incineration methods.
- The students of Add-on-course (Fashion Designing) stitch the bags from old *Sarees* and substitute them for plastic bags to avoid the use of plastic.

**E- Waste management:**

- The old versions of computers and electronic equipment's hardware are re-used by donating it to the tribal schools in tribal areas.
- Outdated computers, printers and other ICT equipment's are sold to the vendors for recycling.
- Interdepartmental sharing of electronic instruments.

**Awareness Activities:**

- S.Y. B.Sc. students (B.A.,B.Sc.,B.Com.) were registered as **members of Environmental protection club** for the year 2018-19.
- S.Y. B.Sc. students (B.A.,B.Sc.,B.com.) came out with various **Environmental awareness projects** as a compulsory academic activity.
- **No immersion of Ganesh idols** in rivers and well.
- Participation of students in the **Swacchata Rally, Cleanliness Drive at campus I and II , Nirmalyadan, celebration of No vehicle Day etc.**
- **Essay writing competition** was organized on environmental issues.

## OVERVIEW OF THE AUDIT

### A] WATER AUDIT

Water audit in the college campus was conducted to determine quantity of water consumption by the institutions, the efficiency of water use and to develop recommendations for improving water use efficiently. Water audit process consists of a preparation of layout of water sources and its distribution through pipelines and finally its delivery points to water users.

Water audit was conducted in the college campus at various important sites, viz., Science laboratories (Chemistry, Physics, Microbiology, Botany and Zoology), Toilets, Staff room, Pantry etc.

#### **Water sources and its consumption:**

1. Source of water is corporation supply and well within the campus.
2. Total 7000 liter capacity storage tanks on terrace.
3. 5 drinking water coolers and filters are there in the college campus.
4. Microbiological testing of drinking water through Microbiology Laboratory is done.

Daily Water supply in Tank (Capacity of the Tank): There is a continuous water supply in all the storage tanks from the main source of PCMC storage tank.

**Table 1. Water Storage tanks in the college**

Sr. No.	Storage Tanks	Capacity (Lit.)	Number of times it is topped (Filled)	Average time of water overflow
1.	Tank 1	2000	Continuously filled with a self-control float valvesystem to prevent overflow	Nil
2.	Tank 2	1000	Continuously filled with a self-control float valve system to prevent overflow	Nil

3.	Tank 3	1000	Continuously filled with a self-control float valve system to prevent overflow	Nil
4.	Tank 4	500	Continuously filled with a self-control float valve system to prevent overflow	Nil
5.	Tank 5	500	Continuously filled with a self-control float valve system to prevent overflow	Nil
6.	Tank 6	2000 (for Science wing)	Continuously filled with a self-control float valve system to prevent overflow	Nil

### Department wise Questionnaire for water Audit Year: 2018-19

#### Department: Chemistry

1. Total number of water users : 260(Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :
  - Teaching Staff : 09
  - Non-teaching Staff : 02
3. No. of Students : 240
4. Average Working Days : 180/yr
5. College Working Days : 25 days/month
1. College working Hours : 10 hr./day
6. Science Timing : 7.50 am to 6.10 pm
7. Purpose of use of water : For washing glass wares, cleaning apparatus and for preparing various solutions.



**Table 2. Consumption of water by chemistry department**

Sr. No.	Site	Source of water	Rate of Discharge Lit./min.	Average Quantity Lit./per user/day	No. of Users per day	Total daily use Lit./day
1.	Chemistry Department	Storage Tank	11	3	80	240

Per week- $240*4=1440$  Per month:  $1440*4= 5760$  Lit. /month, Per six months:  $5760*6=34440$  Lit./six months

**Department: Microbiology**

1. Total number of water users : 140(Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :
  - Teaching Staff : 05
  - Non-teaching Staff : 01
3. No. of Students : 134
4. Average Working Days : 180/yr
5. College Working Days : 25 days/month
6. College working Hours : 10 hr/day
7. Science Timing : 7.50 am to 6.10 pm
8. Purpose of use of water : Washing of glass wares, laboratory media and reagents preparations

**Table 3. Consumption of water by microbiology department**

Sr. No.	Site	Source of water	Rate of Discharge lit./min.	Glassware washing Lit./Week A	Average Quantity used for practicals Lit./per user/day	No. of Users per day	Total daily use by users Lit./day	Total use Lit./week B	Total use Lit./Week A+B
1.	Microbiology Department	Storage Tank	12	2000	4	70	280	1680	3,680

Per month:  $3,680*4=14,720$  Lit./month, Per six months:  $14720 *6=88,320$  Lit./six months

## Questionnaire for water Audit Year: 2018-19

### Department: Zoology

1. Total number of water users : 134 (Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :
  - Teaching Staff : 03
  - Non-teaching Staff : 01
3. No. of Students : 130
4. Average Working Days : 180/yr
5. College Working Days : 25/month
6. College working Hours : 10 hrs/day
7. Science Timing : 7.50 am to 6.10 pm
8. Purpose of use of water : For laboratory purpose, for washing and cleaning of glass wares

**Table 4. Consumption of water by Zoology department**

Sr. No.	Site	Source of water	Rate of Discharge lit./min.	Average Quantity Lit./per user/day	No. of Users	Total Daily use Lit./day
1.	Zoology Department	Storage Tank	12	1	45	45

Per week:  $45 \times 6 = 270$ , Per month:  $270 \times 4 = 1080$  Lit./month, Per six months:  $1080 \times 6 = 6480$  Lit./six months

### Questionnaire for water Audit Year: 2015-16

#### Department: Botany

1. Total number of water users : 134(Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :  
Teaching Staff : 03  
Non-teaching Staff : 01
3. No. of Students : 130
4. Average Working Days : 180/yr
5. College Working Days : 25/month
6. College working Hours : 10 hr./day
7. Science Timing : 7.50 am to 6.10 am
8. Purpose of use of water : Washing and cleaning of glassware, for practical work

**Table 5. Consumption of water by Botany department**

Sr. No.	Site	Source of water	Rate of Discharge Lit./min.	Average Quantity Lit./per user/day	No. of Users	Total Daily use Lit./day
1.	Botany Department	Storage Tank	12	2	45	90

Per week:  $90 \times 6 = 540$ , Per month:  $540 \times 4 = 2,160$  Lit./month, Per six months:  $2,160 \times 6 = 12960$  Lit./six months

## Questionnaire for water Audit Year: 2018-19

### Department: Physics

1. Total number of water users : 161(Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :  
Teaching Staff : 04  
Non-teaching Staff : 01
3. No. of Students : 156
4. Average Working Days : 180 days/yr
5. College Working Days : 25/month
6. College working Hours : 10 hours/day
7. Science Timing : 7.50 am to 6.10 pm
8. Purpose of use of water : For practical and research purpose, for washing purpose

**Table 6. Consumption of water by Physics department**

Sr. No.	Site	Source of water	Rate of Discharge lit./min.	Average Quantity Lit./per user/day	No. of Users	Total Daily use Lit./day
1.	Physics Department	Storage tank	12	05	11	55

Per week :  $55 \times 6 = 330$ /week Per month:  $330 \times 4 = 1,320$  Lit./month, Per six months:  $1,320 \times 6 = 7920$  Lit./six months

### Total water consumption in college campus

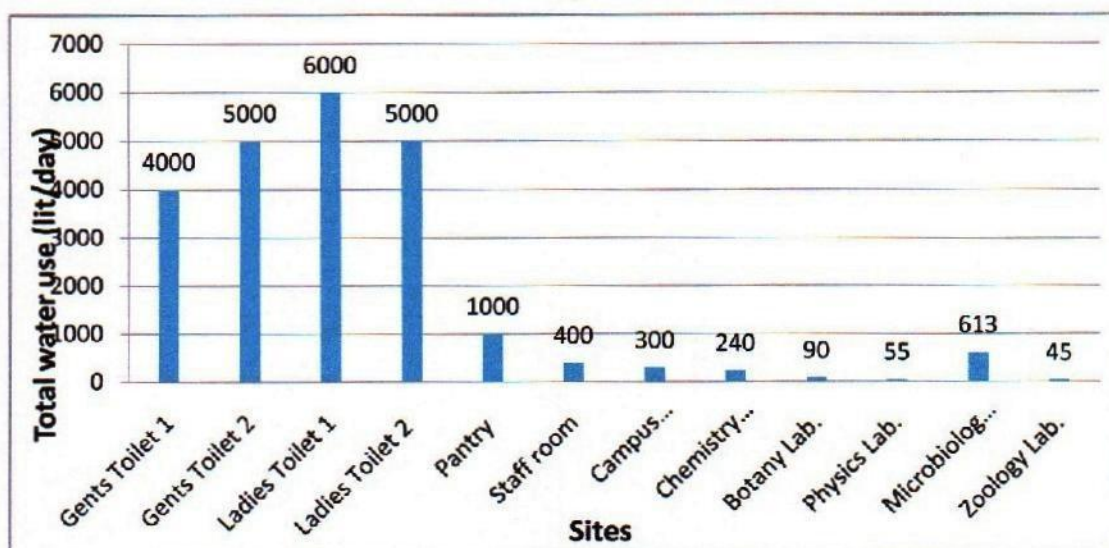
1. Total number of water users : 161(Students, Teaching Staff, Non-teaching Staff, Visitors)
2. Total number of Employees :  
Teaching Staff : 76  
Non-teaching Staff : 25

3. No. of Students : 2943
  - A) Total no. of boys : 1378
  - B) Total no. of girls : 1565
4. No. of visitors : 50-60/day
5. Average Working Days : 180 days/yr
6. College Working Days : 25/month
7. College working Hours : 10 hours/day
8. College Timing
  - A) Arts and Commerce : 7.50 am to 1.30 pm
  - B) Science : 7.50 am to 6.10 pm
  - C) Office : 9.00 am to 6.30 pm
9. Purpose of use of water : For practical and research purpose, for washing purpose
10. Is there Rain Water Harvesting System in the college campus: There is no proper rain water harvesting system in the premises, but in the chemistry department rain water from the roof tops is collected in storage containers.
11. Daily Water supply in Tank (Capacity of the Tank): There is a continuous water supply in all the storage tanks from the main source of PCMC storage tank.

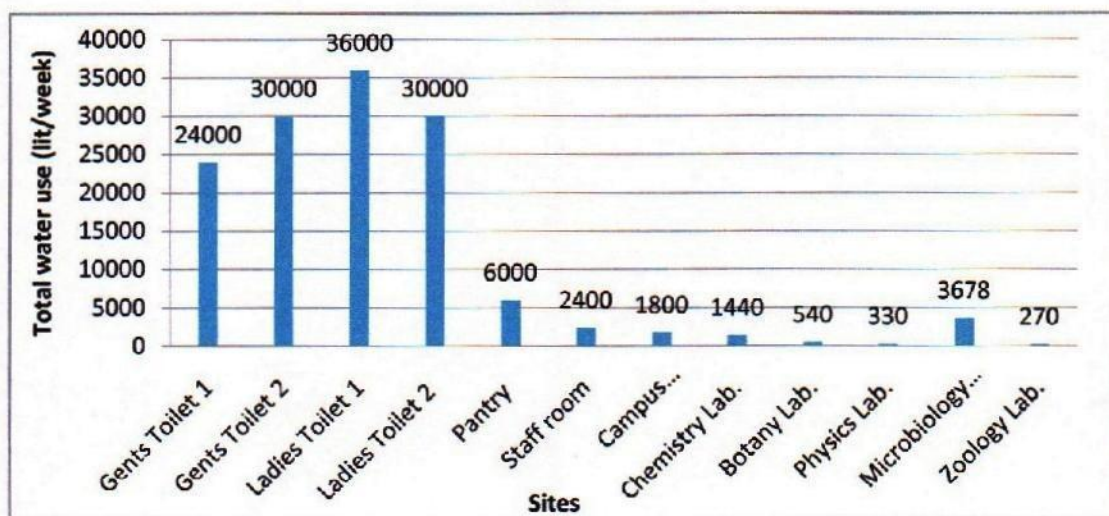
Table 7. Total water consumption by various sites in the college

Sr. No.	Site	Source of water	Rate of Discharge Lit./Min	Average Quantity per use (Lit.)	No. of Users	Total water use Lit./day	Total water use Lit./week
1.	Gents Toilet 1(Ground floor)	Storage tanks 1 to 5	10	10	400	4000	24000
2.	Gents Toilet 2(First floor)	Storage tanks 1 to 5	12	10	500	5000	30000
3.	Ladies Toilet 1(Ground floor)	Storage tanks 1 to	10	10	600	6000	36000
4.	Ladies Toilet 2 (First Floor)	Storage tanks 1 to 5	12	10	500	5000	30000
4.	Pantry (Tea making and washing utensils)	Storage tanks 1 to 5	13	10	100	1000	6000
5.	Staff room	Storage tanks 1 to 5	10	05	80	400	2400
6.	Campus trees and Plants	Storage tanks 1 to 5	05	300	-	300	1800
7.	Chemistry Lab.	Storage tanks 1 to 5	11	03	80	240	1440
8.	Botany Lab.	Storage Tank 6	12	02	45	90	540
9.	Physics Lab.	Storage Tank 6	12	05	11	55	330
10.	Microbiology Lab.	Storage Tank 6	12	8.7	70	613	3678
11.	Zoology Lab.	Storage Tank 6	12	01	45	45	270
<b>Total water consumption</b>						<b>22,743</b>	<b>1,36,458</b>

**Figure 1. Total water consumption by various sites and departments per day**



**Figure 2. Total water consumption by various sites and departments per Week**



Water is used for drinking purpose, pantry, 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.

Total water consumption by the college campus I is 22,743 Lit./day and 1,36,458 Lit./week with maximum consumption by ladies toilets followed by gents toilets. In the science laboratories, maximum water consumption is by the Microbiology department followed by chemistry department. The problem of water loss can be prevented by replacing the taps with the new taps.

## B] HAZARDOUS WASTE MANAGEMENT

A “Hazardous Waste” is a used or discarded material that can damage the environment and be harmful to health. A hazardous waste is a solid, liquid or gaseous material that displays either a “Hazardous Characteristics”, viz., Ignitability, Corrosively, Toxicity, Carcinogenicity and Infectivity. Hazardous chemicals and biological wastes are generated by science departments only.

Hazardous waste includes various chemicals and biological wastes generated in the laboratories of the science departments in the form of liquid as well as solid states. Chemistry department generates solid and liquid chemicals. Microbiology department also generates biohazardous wastes that includes pathogen-contaminated disposable culture dishes, and disposable devices used to transfer, inoculate, and mix pathogenic cultures. Along with the biohazardous waste, less amount of chemical waste is also generated.

**Table8. Hazardous waste generated and its disposal**

Sr. No.	Department	Type of hazardous waste	Quantity of Hazardous waste generated per month	Method used to destroy the hazardous waste
1.	Chemistry	Laboratory chemical and other	8-9 Kg	Sufficiently diluted and drained off
2.	Microbiology	Chemical and Biological (Solid and Liquid)	3-4 kg	Decontamination of biological hazardous waste materials followed by incineration
3.	Physics	Nil	Nil	--
4.	Botany	Nil	Nil	--
5.	Zoology	Nil	Nil	--



Chemistry department generated maximum amount of chemicals and hazardous wastes from laboratory and is about 9 kg./Month. Lab waste in the chemistry lab is disposed off carefully by detoxifying. It is followed by the department of Microbiology which generated about 4 kg/month. Hazardous chemical and biological wastes. Departments viz., Physics, Botany and Zoology generated no hazardous wastes.

**Following are some of the guidelines for the effective disposal of non-hazardous biological wastes:**

**Guidelines for non-hazardous biological waste disposal:**

- Solids must be thermally or chemically treated and placed in a properly labeled, leak-proof container for disposal. Liquids must be thermally or chemically treated and then discharged into the sanitary sewer system.
- Most biological waste that is not infectious or otherwise hazardous to humans, animals, plants, or the environment may be discarded as regular waste or sewage.
- In addition, there are no record-keeping requirements for non hazardous biological waste.
- It is recommended to autoclave or disinfect all microbial products, even if they are not biohazards.

#### **Recordkeeping Requirements**

Each department that generates biohazards waste must comply with the record keeping requirements. Written records must contain the following information:

- Date of treatment
- Amount of waste treated
- Method/conditions of treatment
- Name (printed) and initials of person performing the treatment

## **C] E-WASTE MANAGEMENT**

Generation of E-waste is apparent at every educational institute. Computers, Printers and Xerox machines are must in the administrative work. The wire required for the connectivity also gets included in the E-waste. Similarly, various scientific equipment' sand instruments are worn out with time. These too contribute to the E-waste. The amount of E-waste generated in the college by various departments is less. The Institution has taken following initiative to tackle the problem of E-waste.

**The institution has taken following initiative to tackle the problem of E-waste.**

- E-waste audit is conducted routinely by parent institution.
- The old versions of computers and electronic equipment's, hardware are reused by donating to the schools in the tribal areas.
- Interdepartmental sharing of electronic instruments.
- Outdated computers, printers and other ICT equipment's are sold to the vendors for recycling.

## **D] SOLID WASTE MANAGEMENT**

Solid waste management is a burning issue now a days all over the world. Solidwaste should be handled scientifically. Solid waste audit focuses on type, amount and its management practice.

The solid waste collected was paper waste, reagent bottles in the form glass wastes in the science laboratories, sanitary napkin wastes in the ladies toilets. Among all these types of wastes, paper waste is a major solid waste generated by all the departments. Answer papers were preserved for five years period. After every five year period, answer papers are destroyed. Remaining paper waste (question papers, bills, used papers) are sent to scrap collector. Used reagent bottles (mainly glass bottles) are generated only by chemistry and microbiology departments. These reagent bottles are reused by both the departments. Therefore, very less amount of glass waste is generated by the departments. In other science departments, negligible amount of glass waste is generated. In language department also, no glass waste is generated. In both the

ladies toilets, in all approximately, 1-2 kg/day of solid waste in the form of sanitary napkins are generated and are destroyed by incineration machine installed in ladies toilet.

Therefore, the major solid waste generated in the college campus is paper waste. This report will help for further solid waste management in the campus to go for green environment.

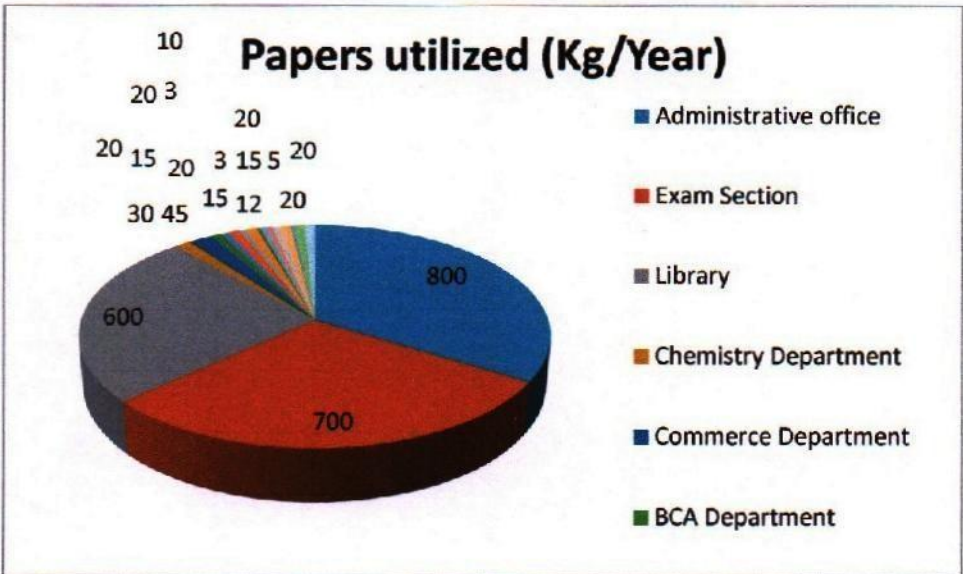
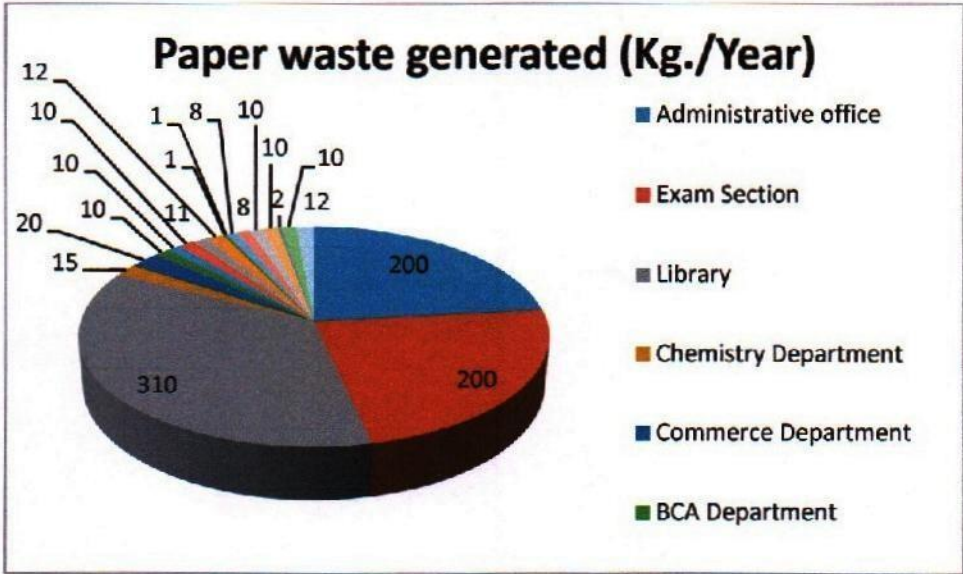
**Table No.9 Types of solid waste generated in various departments and sites**

Sr. No.	Name of the Department	Type of Solid Waste generated (Papers, glass material, sanitary napkins etc.
1.	Office	Papers
2.	Library	Papers
3.	Chemistry	1.Papers2.Glass material-negligible
4.	Microbiology	1.Papers2.Glass material-negligible
5.	Physics	Papers
6.	Zoology	Papers
7.	Botany	1.Papers,2.Plant specimen- Negligible
8.	Mathematics and Statistic	Papers
9.	Arts Department	Papers
10.	Commerce Department	Papers
11.	BCA	Papers
12.	Exam Department	Papers
13.	Washrooms	Tissue papers, Sanitary Napkins-40kg/year
14.	Pantry	Pantry waste-20 kg/year

Table No. 10 Generation of Paper wastes in various departments

Sr. No.	Departments	Papers utilized (Kg/Year) (No. of rims, question papers , answer papers)	Paper waste generated (Kg./Year)	Use of one sided paper (Y/N)
1.	Administrative office	800	200	Y
2.	Exam Section	700	200	Y
3.	Library	600	310	Y
4.	Chemistry Department	30	15	Y
5.	Commerce Department	45	20	Y
6.	BCA Department	20	10	Y
7.	Botany Department	15	10	Y
8.	Physics Department	20	10	Y
9.	Zoology Department	15	11	Y
10.	Microbiology Department	20	12	Y
11.	Mathematics Department	03	01	Y
12.	Statistics Department	03	01	Y
13.	Hindi Department	12	08	Y
14.	Psychology Department	10	08	Y
15.	History Department	15	10	Y
16.	Geography Department	20	10	Y
17.	Politics Department	05	02	Y
18.	Marathi Department	20	10	Y
19.	English Department	20	12	Y

Figure 3.Papers utilized and paper waste generated in various departments of college



Utilization of papers by is highest by the administrative office (800 Kg/year) followed by the exam section(700Kg/year). Maximum paper waste is generated by the administrative office followed by exam (200 Kg/year).In rest of the departments use of papers are limited and therefore paper waste generated is also limited. From Table no.10 it is clear that all the departments use one sided papers for printing and writing purposes.

## Conclusions

1. Environmental Awareness programs were organized to create awareness among students and teachers.
2. Toilets are consuming more water.
3. Glass waste generated is reused by some departments.
4. Reuse of one sided papers by almost all the departments.

**Table 11. Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis**

Domain	Strengths	Weaknesses	Opportunities	Threats
<b>Green Office/Environment protection club (Environment Awareness Program)</b>  <b>Plastic free campus</b>	<ul style="list-style-type: none"> <li>• Well established Environment Protection Club in the campus</li> <li>• College engaged in various environmental awareness programs for teachers and students by organization of Expert's lecture, Poster competition, Essay writing competitions etc. through Environment Protection Club.</li> <li>• Participation of students in the Swacchata rally, cleanliness drives, campaign <i>Nirmalyadan, No Plastic Day, No vehicle Day</i> etc.</li> <li>• Tree Plantation drive at Campus I and Campus II</li> <li>• Cleanliness Drive at college campus I and II.</li> <li>• Green Audit is done</li> </ul>	<ul style="list-style-type: none"> <li>• Non conduct of extensive training programs for teachers and students for environment management</li> </ul>	<ul style="list-style-type: none"> <li>• The blue print of five years eco-friendly campus plan to be prepared</li> <li>• Green audit of second campus should be done.</li> </ul>	<ul style="list-style-type: none"> <li>• Location of the college is in the industrial belt.</li> <li>• Growing traffic around the college</li> <li>• Lack of environmental awareness among people</li> </ul>

	every year.			
<b>Legislation /Laws</b>	<ul style="list-style-type: none"> <li>• Institution is performing well under existing guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no laws or guidelines in the Indian legal system for environmental management in educational system.</li> </ul>	<ul style="list-style-type: none"> <li>• Green Office concept may help in this regard.</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of any prescribed format of guidelines for educational institutes may result in lack of proper running of Green office in the college.</li> </ul>
<b>Solid waste Management</b>	<ul style="list-style-type: none"> <li>• Reuse of reagent bottles at some departments</li> <li>• Use of one side paper in almost all the departments.</li> <li>• There is sanitary nappy vending machine and proper incineration system in the ladies toilet.</li> </ul>	<ul style="list-style-type: none"> <li>• Record of solid waste management is not well maintained by departments.</li> </ul>	<ul style="list-style-type: none"> <li>• Year wise plan for solid waste management should be prepared.</li> <li>• E -documents should be prepared and maintained.</li> </ul>	
<b>Hazardous waste management</b>	<ul style="list-style-type: none"> <li>• Hazardous Microbial wastes are decontaminated and then incinerated properly at microbiology department</li> <li>• Chemical solutions sufficiently diluted and drained off .</li> </ul>	<ul style="list-style-type: none"> <li>• Improper disposal of hazardous chemical</li> </ul>	<ul style="list-style-type: none"> <li>• Proper waste disposal management with Maharashtra waste disposal</li> </ul>	
<b>Water</b>	<ul style="list-style-type: none"> <li>• Awareness of water conservation through personal counseling ,slogans,essay writing competition, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• No proper control on use of water</li> </ul>	<ul style="list-style-type: none"> <li>• Drips or sprinklers are used for watering the plants.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>


## Recommendations

- ✓ Establishment of Green office concept.
- ✓ E-documents should be prepared.
- ✓ Waste management program
- Proper E-waste management program should be followed.
  - A proper method to be followed for hazardous waste treatment.
  - Each department that generates biohazards waste must maintain the record.
  - To reduce chemical waste formation, principles of green chemistry should be used.
- ✓ Water management program
  - Monitoring system for consumption of water may be installed at every node.
  - Rain water harvesting mechanism may be implemented at large scale in the campus.
  - Water loss should be prevented by changing old taps with the new taps.
- ✓ Quantification of carbon foot print should be conducted in the college campus.
- ✓ No vehicle day should be celebrated in **every month** to make the campus environment pollution free .



*True copy*

*Accepted*

  
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