



# NTR GOVT DEGREE COLLEGE FOR WOMEN

MAHABUBNAGAR- 509 001

(Affiliated to Palamuru University) (Accredited with B by NAAC)

Dr. K. Padmavathi, M.Sc., Ph.D.,  
Principal

E-mail: [ntr.jkc@gmail.com](mailto:ntr.jkc@gmail.com)

Website: [www.ntrgcdwmbnr.com](http://www.ntrgcdwmbnr.com)



## COMMISSIONERATE OF COLLEGIATE EDUCATION GOVERNMENT OF TELANGANA





### CERTIFICATE (GREEN, ENERGY and ENVIRONMENT AUDIT)


This is to certify that Environmental, Energy and Green Audit has been conducted at the N. T. R. Government Degree College for Women, Mahabubnagar by the Green Audit Committee of Telangana State Collegiate Education Department in collaboration with Department of Environmental Sciences of Osmania University, Hyderabad. The Committee has verified the Green initiatives carried out by the College and the College has successfully demonstrated knowledge on Energy Conservation, Water Conservation, Bio Diversity, Waste Management and Carbon footprint.


The Green Audit Committee is pleased to declare the following grades in the following categories for their satisfactory performance and is valid from August 2021 to July 2022.

|                            |              |
|----------------------------|--------------|
| Green Initiatives -        | " B+ " Grade |
| Energy Conservation-       | " B+ " Grade |
| Environmental Protection - | " B+ " Grade |

  
Academic Guidance Officer  
O/o Collegiate Education  
Hyderabad

  
Dr. D. Seshikala  
Dept. of Environ. Science  
OU, Hyderabad

  
Dr. A. Vijaya Bhasker Reddy  
Dept. of Botany  
Nizam College, OU, Hyd.

  
Dr. A. Nageswara Rao  
Dept. of Zoology  
Nizam College, OU, Hyd.

GOVERNMENT OF TELANGANA  
COLLEGIATE EDUCATION

From  
The Principal  
NTR Govt. Degree College (Women),  
Mahabubnagar.

To  
The Commissioner of Collegiate Education,  
Government of Telangana,  
Nampally, Hyderabad

Re.No: 837/Estt./NTRGDC (W)/MBNR/2021-22.Date: 08-10-2021

Sir,

**Sub:-** NTR Govt. Degree College for Women-Mahabubnagar- Submission of Green  
Audit Report – 2019-20-Reg'.  
**Ref:-** File No.CCE-AC/QLTY/NAAC/1/2021-ACADEMIC CELL, Dated-26.07.2021

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With reference to the subject cited above, I submit the Green Audit Report for the year  
2019-20, for your kind consideration.

Thanking you Sir,

Yours faithfully,








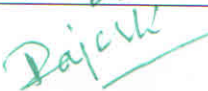
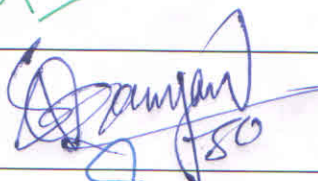

*[Signature]*  
Principal  
NTRGDC (W), Mahabubnagar.  
Mahabubnagar.  
Nky

**NTR GOVERNMENT DEGREE COLLEGE FOR WOMEN,  
MAHABUBNAGAR**

**CERTIFICATE**

Certified that the Green Audit is conducted in NTR GOVERNMENT DEGREE COLLEGE FOR WOMEN, MAHABUBNAGAR for the year 2019-20 vide the proceedings of CCE, Hyderabad File No. CCE-AC/QLTY/NAAC/1/2021-ACADEMIC CELL Dated 26.07.2021 and submitted report to the Commissioner of Collegiate Education, Hyderabad.


**Committee**


| Sl.No | Name   | Composition                             | Signature   |
|-------|--|---|---|
| 1     | Dr. K. Padmavathi<br>Principal   | Chairman                                |     |
| 2     | Dr. Aslam Faroqui<br>IQAC Coordinator  | Vice chairman                           |    |
| 3     | Lt. Dr. M. Vijay Kumar<br>Principal, ID College,<br>MVS GDC (A), Mahabubnagar. | Special Invitee                         |    |
| 4     | Amina Mumtaz Jahan<br>Assistant Professor of Botany                            | Coordinator                             |    |
| 5     | R. Lavanya<br>Assistant Professor of<br>Chemistry                              | Member                                  |   |
| 6     | G. Swathi<br>Assistant Professor of<br>Chemistry                               | Member                                  |   |
| 7     | Surayya Jabeen<br>Assistant Professor of Physics                               | Member                                  |   |
| 8     | T. Rajeshwari<br>Assistant Professor of<br>Mathematics                         | Member                                  |   |
| 9     | Y. Nisarajan<br>Forest Section Officer   | Forest<br>Department                    |  |
| 10    | B. Srinivasa<br>L.O. Computer  | Health &<br>Department<br>DHMO,<br>MBNR |  |



## GRADING FOR ENVIRONMENTAL AUDIT REPORT - 2019-20

| S.No         | Components for Assessment  | Maximum Marks | Marks Awarded | GRADE                         |
|--------------|--|---------------|---------------|-------------------------------|
| 1            | Energy Audit   | 20            | 17            | <b>Awarded with Grade "A"</b> |
| 2            | Waste Audit  | 15            | 13            |                               |
| 3            | Water Audit  | 15            | 13            |                               |
| 4            | Landscape or Environment Audit   | 15            | 14            |                               |
| 5            | Carbon Footprint & Oxygen Emission Audit   | 15            | 13            |                               |
| 6            | Green Activities (Conduction of seminars/conferences/workshops/student competetions/awareness programs/observation of environmental related days etc., | 10            | 8             |                               |
| 7            | Student clubs (Environmental club/ Green club/ Nature club/ Biodiversity club/ Eco club/ Flora & Fauna club/Science club etc.,) activity annual report | 10            | 8             |                               |
| <b>Total</b> |  | <b>100</b>    | <b>86</b>     |                               |

  
**PRINCIPAL**  
 MVS Govt. Arts & Science  
 Degree & PG College (A)  
 Christian Pally, Mahabubnagar

  
**PRINCIPAL**  
 N.T.R.G.D.C.(W)  
 Mahabubnagar.

**COMMISSIONERATE OF COLLEGIATE EDUCATION,  
TELANGANA: HYDERABAD  
PROFORMA FOR GREEN AUDIT**

**College Profile**

Name of the College: NTR Government Degree College for Women, Mahabubnagar

Address: 8/1/207, Near District Sports Stadium, Mahabubnagar-509001.

Contact Info: 9542696721

Campus Area: 1.36 Acre

Built-up Area: 1.12 Acre

Is the building has ventilators for natural air flow in all rooms: Yes/No

**The student and faculty strength of the college:**

| Strength                 | Male | Female | Total |
|--------------------------|------|--------|-------|
| No of students           | -    | 2979   | 2979  |
| No of Teaching Staff     | 32   | 31     | 63    |
| No of Non-Teaching staff | 08   | 06     | 14    |

**Physical Structure**

The available land of the college: 1.36 Acres.

The built-up area of the college: 1.12 Acre

|                            |    |
|----------------------------|----|
| No. of Class Rooms         | 60 |
| No. of Laboratories        | 13 |
| No. of Conference halls    | 01 |
| Library Halls              | 01 |
| Auditorium                 | -  |
| Canteen                    | 01 |
| Any other (please specify) | -  |

|  |   |
|--|---|
| <b>Objectives :</b>  | -   |
| <b>Prepared by:</b>  | Internal Environmental Audit Team / Coordinator |
| <b>Approved by:</b>  | Principal                                       |
| <b>Remarks :</b>   | NIL   |
| <b>FORMS AND SUPPORT MATERIAL</b>                            |   |
| Questionnaire<br>Document ref. name/no.:                     | Fulfilled                                       |
| Checklist for Environmental Audit<br>Document ref. name/no.: | Fulfilled                                       |
| Additional forms and support material:                       | Enclosed  |

### **Background:**

NTR Government Degree College for Women, Mahabubnagar, is one of the pioneer institutions for undergraduate education for women in Mahabubnagar district. The institution was established in the year 1981 . The institution at present is run under the efficient leadership of Principal, Dr. K. Padmavathi.

The college is situated at the city center surrounded with commercial and residential buildings.

### **General Objectives**

To nurture environmental friendly management in the institution following objective \_\_\_\_\_ were \_\_\_\_\_ formulated;

- **To secure the environment and cut down the threats posed to human health.**
- **To set the procedure for disposal of all types of harmful waste.**
- **To reduce energy consumption.**
- **To minimize the consumption of water and monitor its quality.**
- **To minimize the environmental pollution.**
- **To increase the greenery of the institution.**
- **To access the carbon foot print of the institution.**

### **Protocols used for Environmental Audit**

#### **Internal Audit Team Structure:**

| <b>Sl.No</b> | <b>Name</b>            | <b>Designation</b>                                | <b>Composition</b>   |
|--------------|------------------------|---|----------------------|
| 1            | Dr. K. Padmavathi      | Principal   | Chairman             |
| 2            | Dr. Aslam Faroqui      | IQAC Coordinator                                  | Vicechairman         |
| 3            | Lt. Dr. M. Vijay Kumar | Principal, ID College, MVS GDC (A), Mahabubnagar. | Special Invitee      |
| 4            | Amina Mumtaz Jahan     | Assistant Professor of Botany                     | Coordinator          |
| 5            | R. Lavanya             | Assistant Professor of Chemistry                  | Member               |
| 6            | G. Swathi              | Assistant Professor of Chemistry                  | Member               |
| 7            | Surayya Jabeen         | Assistant Professor of Physics                    | Member               |
| 8            | T. Rajeshwari          | Assistant Professor of Mathematics                | Member               |
| 9            | Y. Niranjan            | Forest Section Officer, Forest Dept.              | Extra Invitee Member |
| 10           | B. Srinivasulu         | DMHO Office, Health Department                    | Extra Invitee Member |

#### **Comprehensive Methods:**

The methodology adopted to conduct the green audit of the institute had the following components;

- On-Site visit – 4 day field visit was conducted by the green audit team. The key focus on the visit was on assessing the status of the green cover of the institution, their waste management practices, energy conservation strategies etc., The sample collection (Water) was carried out during the visits. The water sample from bore well and tap water sources were taken at three different time intervals in the campus. The sample collection, preservation and analyses were done in the scientific manner as prescribed by the standard procedures.
- Group Discussion – Group discussions were held with the staff and students and (different college level committee members) focusing

various aspects of green audit. The discussion was focused on identifying the attitudes and awareness toward environmental issues at the institution.

- Energy, Waste Management and Carbon foot print Analyses Survey – With the help of staff and students the audit team has assessed the energy consumption pattern and waste generation, disposal and treatment facilities of the college. The monitoring was conducted with a detailed questionnaire method. Photographs are used to support the finding and highlight good practice.

### **Written Reports:**

1. Green Audit Report: In recent times the Green Audit of the Institution has been becoming more important. To make the college a more environmentally sustainable institution of higher learning. Green Audit helps to protect the environment and solves environmental problems. It enables to find our methods for waste management. It is useful to evaluate environmental standards.
2. Energy Audit: The primary objective of energy audit is to determine ways to reduce energy consumption in an institution. To conserve energy in our college,
  - i. LED Lights are installed
  - ii. Lights, Fans and all electronic devices are turned off, when not in use.
  - iii. The window panes of labs are changed to glass for using day light and reducing consumption of electric light.
  - iv. Awareness programs conducted for students to explain importance of conserving energy.
3. Water Audit: Water Audit is an assessment of how much water is used and how much can be saved in an institution. Generally, we use water for drinking, gardening, cleaning labs and toilets.
  - i. To save water in the college
  - ii. To install low flow plumbing fixtures
  - iii. To identify and fixing leaks
  - iv. To usage of posters and signs to remind about saving water.
  - v. Harvesting rain water.



4. Waste Audit: A waste audit is a process that is used to determine the amount and types of waste produced by the institution. Waste included, liquid waste, solid waste, organic waste etc., The institution adopting free solid waste management methods like composting, reducing, recycling, reusing.
5. Carbon Footprint Audit: It can highlight all contributory causes of carbon dioxide emission and establish overall carbon dioxide generation.

### **PROCEDURE:**

Annual Plan – Policies referring to institution and approach towards the use of resources need to be considered in purview of green audit report. An environmental policy is formulated by the college. The college have a policy on green awareness program for students and staff right from the beginning of the academic year. Based on the policies the college has an action plan. The green auditing report is the base line for the action plan to be evolved.

Preparation – The comprehensive methods are used for green auditing such as onsite visit, group discussions, analyses etc., the typical questionnaire are developed for auditing. The staff and incharges of the area have been given the responsibility for auditing.

Wrap up Meeting – A meeting was conducted with the internal audit team members and examined the audit report prepared by the incharges responsible for each area.

### **AUDITING FOR WATER MANAGEMENT**

1. List out uses of water in your college.

It is used for drinking, gardening, cleaning, labs and toilets.

2. What are the sources of water in your college?

Bore water and Municipal water.

3. How many wells are there in your college?

01

4. No. of motors used for pumping water from each well?

01

5. What is the total horse power of each motor?

1.05HP

6. What is the depth of each well?

200 feet

7. What is the present depth of water in each well?

20 feet

8. How does your college store water?

There is Over Head Tank

9. Quantity of water stored in your overhead water tank? (In liters)

15,000L

10. Quantity of water pumped every day? (In liters)

6000L

11. If there is water wastage, specify why.

NO

12. How can the wastage be prevented / stopped?

No leaky taps and sign boards are used as reminders to turn off the taps after use

13. Locate the point of entry of water and point of exit of waste water in your College.

Point of entry of water- Northeast

Point of exit of waste water- Southwest

14. Where does waste water come from?

From R.O plant

15. Where does the waste water go?

It is used for gardening.

16. What are the uses of waste water in your college?

Used for gardening

17. What happens to the water used in your labs? Whether it gets mixed with ground water?

No

18. Is there any treatment for the lab water?

No

19. Whether green chemistry methods are practiced in your labs?

No

20. Write down four ways that could reduce the amount of water used in your college.

a. Installation of low flow plumbing fixtures.

b. Identification and fixing of leaks.

c. Usage of posters and signs to remind about saving water.

d. Harvesting rain water.

21. Record water use from the college water meter for six months.

No meter

22. Bimonthly water charges paid to water connections if any

No water bill

23. No. of water coolers. Amount of water used per day? (in liters)

NIL

24. No. of water taps. Amount of water used per day?

60taps, 6000L

25. No. of bath rooms in staff rooms, common, hostels. Amount of water used per day?

NIL

26. No. of toilet, urinals. Amount of water used per day?

3000L

27. No. of water taps in the canteen. Amount of water used per day?

Nil

28. Amount of water used per day for garden use.

400L

29. No. of water taps in laboratories. Amount of water used per day in each lab?

21, 500L

30. Total use of water in each hostel?

No hostel facility .

31. At the end of the period, compile a table to show how many liters of water have been used in the college for each purpose

| Purpose       | Quantity of water |
|---------------|-------------------|
| For toilets   | 3000L             |
| For gardening | 400L              |
| For Labs      | 500L              |
| For drinking  | 2000L             |
| For cleaning  | 100L              |

32. Is there any water used for agricultural purposes?

No

33. Does your college harvest rain water?

Yes

34. If yes, how many rain water harvesting units are there? (Approx. amount)

01

35. How many of the taps are leaky? Amount of water lost per day?

NIL

36. Are there signs reminding people to turn off the water? Yes / No

Yes

37. Is there any waterless toilets?

No

38. How many water fountains are there?

NIL

39. How many water fountains are leaky?

NIL

40. Is drip irrigation used to water plants outside? YES/NO

No

41. How often is the garden watered?

one time per day

42. Quantity of water used to watering the ground?

NIL

43. Quantity of water used for bus cleaning? (Liters per day)

Not applicable

44. Amount of water for other uses? (Items not mentioned above)

NIL

45. Area of the college land without tree/building canopy.

1400 yards

46. Is there any water management plan in the college?

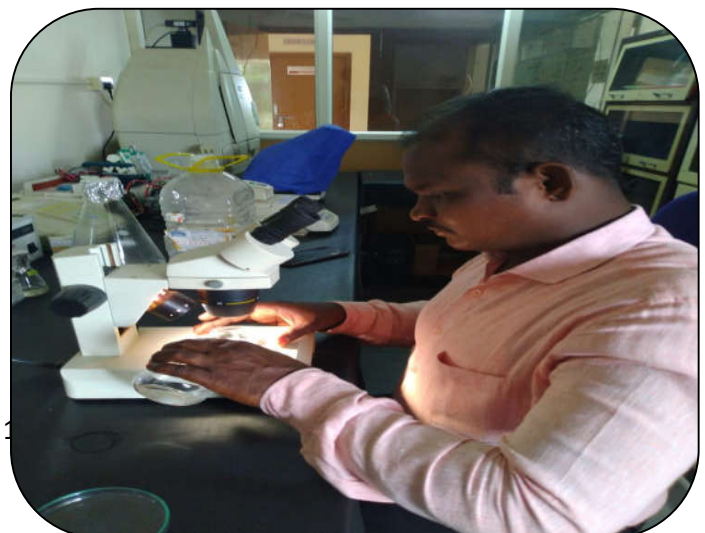
No

47. Are there any water saving techniques followed in your college? What are they?

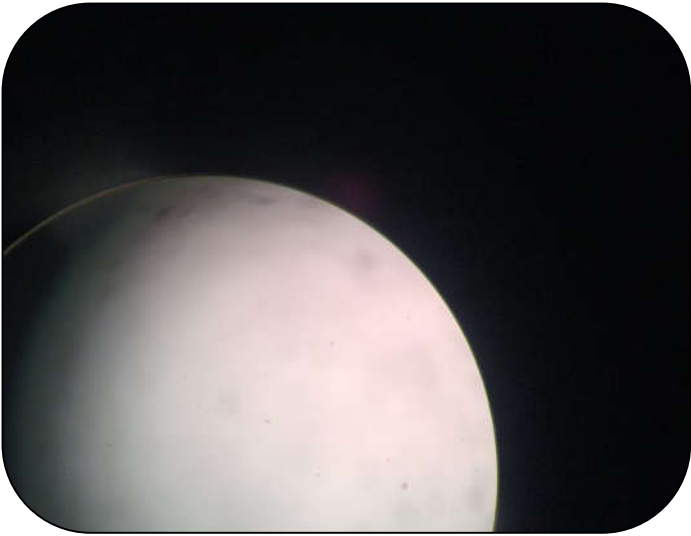
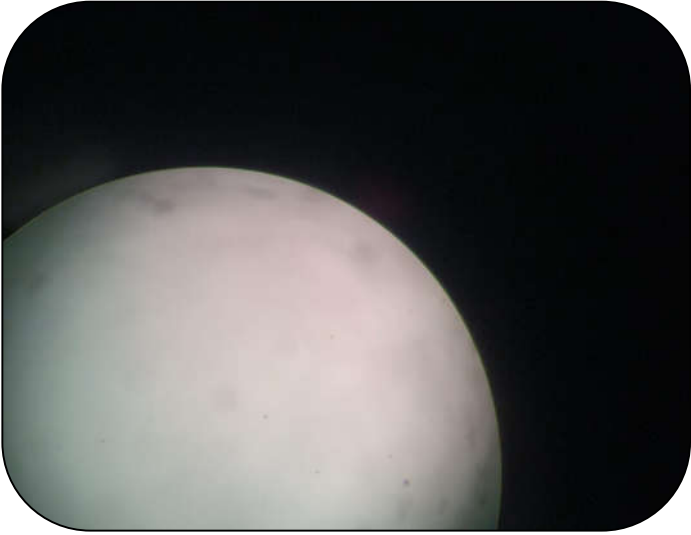
- a. Installation of low flow plumbing fixtures.
- b. Identification and fixing of leaks.
- c. Usage of posters and signs to remind about saving water.
- d. Harvesting rain water.

48. Please share Some IDEA for how your college could save more water.

- a. Installation of low flow plumbing fixtures.
- b. Identification and fixing of leaks.
- c. Usage of posters and signs to remind about saving water.
- d. Harvesting rain water.











## 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).

- Electricity
- LPG

2. Electricity bill amount for the last year

2019-2020 – Rs. 2,25,335/-

2020-2021 – Rs.1,38,054/-

3. Amount paid for LPG cylinders for last one year

Rs.2,300/-

4. Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?

Not Applicable

5. Are there any energy saving methods employed in your college? If yes, please specify. If no, suggest some.

- LED lights are installed.
- Lights, Fans and all electronic devices are turned off when not in use.
- The window panes of labs are changed to glass for using day light and reducing consumption of electric light.

6. How much money does your college spend on energy such as electricity, gas, firewood, etc. in a month?

Rs.20,000/-

7. How many CFL bulbs has your college installed? Mention use (Hours used/day for how many days in a month)

48 CFL / LED bulbs are installed. 4 hrs / Day, 25 days a month.

8. Energy used by each bulb per month? (For example- 60 watt bulb x 4hours x number of bulbs = Kwh).

1.4 Kwh

9. How many LED bulbs are used in your college? Mention the use (Hours used/day for how many days in a month)

48 LED Tube Lights are used, 4 hrs / Day, 25 days a month.

10. Energy used by each bulb per month? (kWh).

2 Kwh by each LED tube per month.

11. How many incandescent (tungsten) bulbs have your college installed?  
Mentions use (Hours used/day for how many days in a month)

NIL

12. Energy used by each bulb per month? (kWh).

Not Applicable

13. How many fans are installed in your college? Mention use (Hours used/day for how many days in a month)

318, 3 hrs/ Day for 24 Days in a month.

14. Energy used by each fan per month? (kWh).

4.32 kWh

15. How many air conditioners are installed in your college? Mention use (Hours used/day, for how many days in a month)

07, 2hrs / Day, 15 Days in a month.

16. Energy used by each air conditioner per month? (kWh).

60 kWh

17. How many electrical equipment including weighing balance are installed your college? Mention the use (Hours used/day for how many days in a month)

Listed in the Energy Audit Consolidated Report.

18. Energy used by each electrical equipment per month? (kWh).

Listed in the Energy Audit Consolidated Report.

19. How many computers are there in your college? Mention the use (Hours used/day for how many days in a month)

130, 2 hrs / Day, 20 Days in a month.

20. Energy used by each computer per month? (kWh).

3.2 kWh

21. How many photocopiers are installed by your college? Mention use (Hours used/day for how many days in a month).

03 Photostat Machine, 2 hrs / Day, 10 Days in a month.

05 Printer Cum Scanner, 1 hr / Day, 20 Days in a month.

05 Printer, 1 hr / Day, 20 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)

02 Refrigerators, 24 hrs / Day, 30 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)

108 kWh

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)

Photostat Machine – 3 Kwh

Printer Cum Scanner – 60 Kwh

Printer- 20 Kwh

UPS – 05 Qty, 8 Hrs / Day, 20 Days a month.

25. Energy used by each inverter per month? (kWh).

160 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)

03 Centrifuge, 01 hr/Day, 10 Days a month.

01 Distillation Unit, 02 hr/ Day, 10 Days a month.

27. Energy used by each equipment per month? (kWh)

Centrifuge – 8.5 kWh

Distillation Unit – 20 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)

NIL

29. Energy used by each heater per month? (kWh)

Not Applicable

30. No of street lights in your college?

NIL

31. Energy used by each street light per month? (kWh)

Not Applicable

32. No of TV in your college and hostels?

NIL

33. Energy used by each TV per month? (kWh)

Not Applicable

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)

Listed in the Energy Audit Consolidated Report.

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.

NIL

36. Do you run "switch off" drills at college?

Yes



37. Are your computers and other equipment put on power-saving mode?

Yes, the computers changes to power-saving mode automatically, when not in use.

38. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby mode most of the time? If yes, how many hours?

No.

39. What are the energy conservation methods adapted by your college?

- LED lights are installed.
- Lights, Fans and all electronic devices are turned off when not in use.
- The window panes of labs are changed to glass for using day light and reducing consumption of electric light.
- Awareness programs conducted for students to explain importance of conserving energy.

40. How many boards displayed for saving energy awareness?

02

41. How much ash is collected after burning fire wood per day in the canteen?

Not Applicable

42. Write a note on the methods/practices/adaptations by which you can reduce the energy use in your college campus in future.

The college is planning to install small solar plant as an alternative source of energy in a way to reduce energy consumption.

## ENERGY AUDIT CONSOLIDATED REPORT

| Sl.No        | Electrical Appliances/ Instruments | Number | Power (W)/Unit | Total power(W) | KW    | Operation (hrs)/Day | KW/hr | No. of days in month | Total consumption/ month ( KWh) |
|--------------|------------------------------------|--------|----------------|----------------|-------|---------------------|-------|----------------------|---------------------------------|
| 1            | CFL                                | 48     | 14             | 672            | 0.672 | 4                   | 2.688 | 25                   | 67.2                            |
| 2            | Tube                               | 136    | 40             | 5440           | 5.44  | 3                   | 16.32 | 20                   | 326.4                           |
| 3            | LED Tube                           | 48     | 20             | 960            | 0.96  | 4                   | 3.84  | 25                   | 96                              |
| 4            | Fans                               | 318    | 60             | 19080          | 19.08 | 3                   | 57.24 | 24                   | 1373.76                         |
| 5            | Amplifiers                         | 2      | 200            | 400            | 0.4   | 1                   | 0.4   | 10                   | 4                               |
| 6            | LCD Projector                      | 8      | 100            | 800            | 0.8   | 1                   | 0.8   | 15                   | 12                              |
| 7            | LCD TV                             | 2      | 40             | 80             | 0.08  | 24                  | 1.92  | 30                   | 57.6                            |
| 8            | Computers                          | 130    | 80             | 10400          | 10.4  | 2                   | 20.8  | 20                   | 416                             |
| 9            | Laptops                            | 5      | 60             | 300            | 0.3   | 2                   | 0.6   | 10                   | 6                               |
| 10           | Photostat Machine                  | 3      | 100            | 300            | 0.3   | 3                   | 0.9   | 10                   | 9                               |
| 11           | UPS                                | 5      | 1000           | 5000           | 5     | 8                   | 40    | 20                   | 800                             |
| 12           | AC                                 | 7      | 2000           | 1400           | 1.4   | 2                   | 2.8   | 15                   | 42                              |
| 13           | Refrigerator                       | 2      | 150            | 300            | 0.3   | 24                  | 7.2   | 30                   | 216                             |
| 14           | Printer Cum Scanner                | 5      | 1000           | 5000           | 5     | 3                   | 15    | 20                   | 300                             |
| 15           | Printers                           | 5      | 1000           | 5000           | 5     | 1                   | 5     | 20                   | 100                             |
| 16           | Table Fan                          | 2      | 55             | 110            | 0.11  | 1                   | 0.11  | 20                   | 2.2                             |
| 17           | Oven                               | 1      | 1500           | 1500           | 1.5   | 1                   | 1.5   | 10                   | 15                              |
| 18           | Exhaust Fans                       | 23     | 32             | 736            | 0.736 | 2                   | 1.472 | 20                   | 29.44                           |
| 19           | Centrifuge                         | 3      | 850            | 2550           | 2.55  | 1                   | 2.55  | 10                   | 25.5                            |
| 20           | Distillation Unit                  | 1      | 1000           | 1000           | 1     | 2                   | 2     | 10                   | 20                              |
| 21           | Sanitary Napkin Incinerator        | 2      | 1200           | 2400           | 2.4   | 2                   | 4.8   | 15                   | 72                              |
| 22           | Horse Power Motor                  | 1      | 800            | 800            | 0.8   | 5                   | 4     | 20                   | 80                              |
| 23           | Water Plant                        | 1      | 100            | 100            | 0.1   | 2                   | 0.2   | 25                   | 5                               |
| <b>TOTAL</b> |                                    |        |                |                |       |                     |       |                      | <b>4,075.10</b>                 |

## AUDITING FOR WASTE MANAGEMENT

What is the total strength of students, teachers and Non-teaching staff in your College?

No. of Students : 2979  
 No. of Teachers : 63  
 No. Non-teaching staff : 19  
 Gents : 40  
 Ladies : 3016  
**Total : 3056**

| Strength                 | Male | Female | Total       |
|--------------------------|------|--------|-------------|
| No of students           | 00   | 2979   | <b>2979</b> |
| No of Teaching Staff     | 32   | 31     | <b>63</b>   |
| No of Non-Teaching staff | 08   | 06     | <b>1</b>    |

Which of the following are available in your College?

Give area occupied, Garden area and Garbage dump (number) Playground area, Laboratory, Kitchen, Canteen, Toilets (number) Car/scooter shed area

| Sl No. | Available in the college | Area occupied | No of available |
|--------|--------------------------|---------------|-----------------|
| 1      | Garden Area              | 0.14 Acre     | 03              |
| 2      | Garbage Area and dump    | 0.01 Acre     | 01              |
| 3      | Play ground area         | 0.20Acre      | 01              |
| 4      | Laboratory               | 0.04 Acre     | 13              |
| 5      | Canteen                  | 0.02 Acre     | 01              |
| 6      | Toilets                  |               | 54              |
| 7      | Car/Scooter parking area | 0.02 Acre     | 01              |

Number of class rooms, Office rooms and others (specify)

|    |   |      |    |
|----|---|------|----|
| 8  | Class rooms   | 0.50 | 60 |
| 9  | Office rooms  | 0.08 | 01 |
| 10 | Others( seminar hall,<br>ladies waiting room,<br>Sports room and Gym) | 0.35 | 04 |

Which of the following are found near your college? Mark the level of disturbance it creates for the college in a scale of 1 to 9.

| Places near the college       | Yes/No | Mark of Disturbance level |
|-------------------------------|--------|---------------------------|
| Municipal dump Yard           | No     | NA                        |
| Garbage heap                  | No     | NA                        |
| Public convenience sewer line | No     | NA                        |
| Stagnant water                | Yes    | 800metres                 |
| Open drainage Industry        | No     | NA                        |
| Bus station market            | Yes    | 500metres                 |

## **WASTE**

Does your college generate any waste? If so, what are they? How much quantity?

| Type of waste       | Number | Quantity |
|---------------------|--------|----------|
| E-waste             |        | 06 kgs   |
| Hazardous waste     |        | 01 kg    |
| Solid waste         |        | 50 kgs   |
| Dry leaves          |        | 30 kgs   |
| Canteen waste       |        | 60 kgs   |
| Glass               |        | 05 kgs   |
| Unused<br>Equipment |        | 20 kgs   |
| Napkins             |        | 25 kgs   |

Is there any waste treatment system in the college?

The institution adopting the 3 solid waste management methods:

- 1) Composting
- 2) Reducing
- 3) Reusing

Is there any treatment for toilet/urinal/sanitary napkin waste?

The institution has 3 **sanitary napkin incinerators** which disposes napkins in an environment friendly method by burning pads and converting them into ash. Incineration method destroys solid sanitary napkins hygienically.

1 What is the approximate quantity of waste generated per day? (in Kilograms) Office Laboratories Canteen/kitchen

**Approximate quantity of waste generated per day (in kg)**

| <b>Office</b> |               |                        |           |        |
|---------------|---------------|------------------------|-----------|--------|
| Approx.       | Biodegradable | Non -<br>Biodegradable | Hazardous | Others |

|        |         |        |     |     |
|--------|---------|--------|-----|-----|
| <1Kg   |         | 50 gms | --- | --- |
| 2-10Kg | 1.5 kgs |        |     |     |
| >10Kg  |         |        |     |     |

|                     |               |                     |           |        |
|---------------------|---------------|---------------------|-----------|--------|
| <b>Laboratories</b> |               |                     |           |        |
| Approx.             | Biodegradable | Non - Biodegradable | Hazardous | Others |
| <1Kg                | 100gms        | 50gms               | 10gms     | ---    |
| 2-10Kg              |               |                     |           |        |
| >10Kg               |               |                     |           |        |

|                        |               |                     |           |        |
|------------------------|---------------|---------------------|-----------|--------|
| <b>Canteen/kitchen</b> |               |                     |           |        |
| Approx.                | Biodegradable | Non - biodegradable | Hazardous | Others |
| <1Kg                   |               | 50gms               | ---       | ---    |
| 2-10Kg                 | 1kg           |                     |           |        |
| >10Kg                  |               |                     |           |        |

| Waste management method                                | Yes/No | Remark   |
|--|--------|--|
| A)Composting/<br>Vermicomposting                       | Yes    | Composting of biodegradable waste  |
| B)Recycling  | No     | -  |
| C)Reusing  | Yes    | Reusing of recycled solid paper waste and used plastic bottles are reused as flower pots |
| D)Other ways<br>Reducing of non bio degradable plastic | Yes    | The college has a ban on using of non bio-degradable plastic.                            |

## 2 Why waste is a problem?

Overflowing waste create serious negative health And environmental impacts such as spreading of infectious diseases, air, land, and water pollution and obstruction of drains leads to loss of biodiversity.

## 3 Whether waste is polluting ground/surface water? How?



Deposition of solid or liquid waste materials contaminates the soil and ground water. As the waste substances from polluted surfaces seep into the ground water or runoff into lakes and rivers which can be a serious issue for the public health and environment.

4 Whether waste is polluting the air of the college? How?

Our college trying to follow the waste management methods to control the air and water pollution.

5 How is the waste generated in the college managed?

The waste generated in the college is managed by the following solid waste management methods:

**1) Composing:** The botany department is working on making the solid waste into composting. Bio-degradable dry leaves, grass from garden , wet waste from canteen are transferred to composting pit. The formed compost will be used in the college garden.

**2) Reusing:** The used water bottles are reused for growing plants in the departments which will reduce the recycling process to control the pollution.

**3) Reducing:** The College has a practice of non usage of the non-biodegradable plastic.

6 How many separate boxes do you think you would need to put into a classroom to start a waste segregation and recycling campaign?What should be the use for each box? (Develop a Colour code with reasons)

Color coded dustbins need to put in the classroom and college.

1) Green colored dustbins are meant for wet and biodegradable waste

For eg: canteen waste and students lunch boxes waste.

2) Blue dustbins are meant for disposal of plastic waste bottles and non-biodegradable wastes.

7 Do you use recycled paper in College?

No.

8 Is there any waste wealth program practiced in the college?

Waste to wealth is the process of conversion of waste to generation of useful substances. The college is practicing waste to wealth program as follows:

- The college has adopted waste management methods to encourage the conversion biodegradable wet waste, dry leaves and grass from the campus to **compost** which can be reused in the college garden as manure to grow medicinal plants.
- The college is **reusing** the used waste plastic bottles for growing flowering plants.

9 How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.

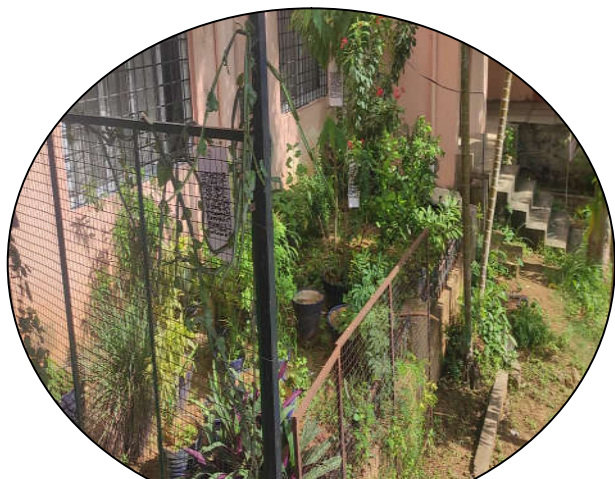
Yes. The college is spreading the message for the protection of environment through green activities, eco club, activities, celebrating environmental related days, awareness programs such as ozone day, energy conservation week.

10 Can you achieve zero garbage in your college? (Reduce, Recycle, Reuse, Refuse) If yes, how?

The college is trying to achieve zero garbage through the solid waste management methods like Reduce, Recycle, Reuse as follows:

**1) Reduce:** By reducing the usage of non-biodegradable plastics in the college. By time to time repairs of water tap in the college to reduce water wastage through leakages. By using the napkin incinerators in the college , reducing the napkin waste by burning.

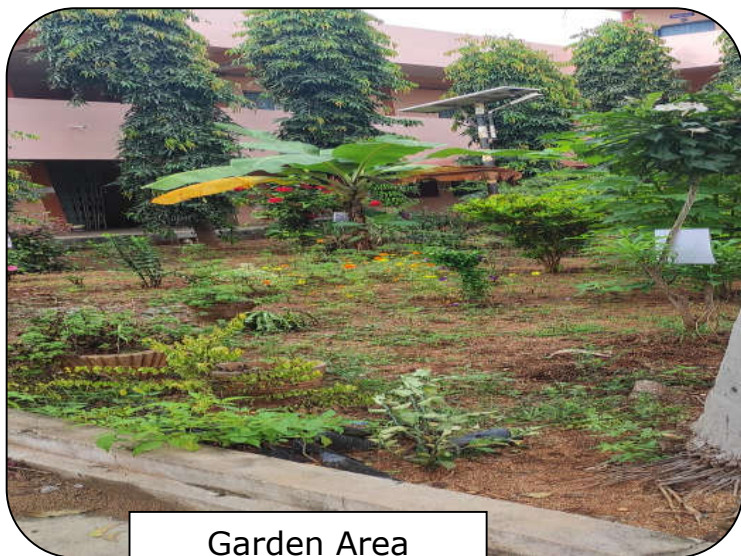
**2) Reuse:** By reusing the used water bottles for growing flowering plants.. By diverting the RO water plant outlet water is used in the garden.



Medicinal Garden



Plastic Resuing



Garden Area



Compost Pit

### AUDITING FOR GREEN CAMPUS MANAGEMENT

1. Is there a garden in your college Area? Yes, 268 Sq. Yrds.
2. Do students spend time in the garden? No.
3. List the plants in the garden, with approx. numbers of each species.

#### Medicinal Plants

| S.NO | Common Name   | Botanical Name          | Habit   | No of Species |
|------|---------------|-------------------------|---------|---------------|
| 1.   | Tulasi        | Occimum sanctum         | Herb    | 06            |
| 2.   | papaya        | Carica papaya           | shrub   | 05            |
| 3.   | Billaganneru  | Catharanthus roseaus    | Herb    | 10            |
| 4.   | Guava         | Psidium gujava          | Shrub   | 03            |
| 5.   | Insulin plant | Chamaecostus cuspidatus | Shrub   | 01            |
| 6.   | Betel leaf    | Piper betel             | Climber | 01            |
| 7.   | Palleru       | Tribulus terrestris     | Shrub   | 01            |

|     |                   |                           |       |    |
|-----|-------------------|---------------------------|-------|----|
| 8.  | All Spices Plant  | Pimenta dioica            | Shrub |    |
| 9.  | Ranapala          | Bryophyllum Pinnatum      | Herb  | 05 |
| 10. | Chettu sampenga   | Michelia champaca         | Shrub | 01 |
| 11. | Sandal wood plant | Santalum album            | Shrub | 01 |
| 12. | Ramaphalam        | Annona reticulata         | Shrub | 01 |
| 13. | Seethaphalam      | Annona squamosa           | Shrub | 01 |
| 14. | Kalabanda         | Aloe vera                 | Herb  | 05 |
| 15. | Tippateega        | Tinospora cordifolia      | Herb  | 05 |
| 16. | Gorintaku         | Lawsonia inermis          | Shrub | 06 |
| 17. | Neem              | Azadirachta indica        | Tree  | 03 |
| 18. | Datura            | Datura metel              | Shrub | 01 |
| 19. | Kanuga            | Pongamia pinnata          | Tree  | 01 |
| 20. | Parijatam         | Nyctanthus arbortristis   | Shrub | 01 |
| 21. | Nandivardanam     | Tabernaemontana coronaria | Shrub | 01 |
| 22. | Neredu            | Syzizium cumini           | Tree  | 01 |
| 23. | Nela usiri        | Phyllanthus niruri        | Herb  | 05 |
| 24. | Mandara           | Hibiscus rosasinensis     | Shrub | 06 |

|     |               |                        |         |    |
|-----|---------------|------------------------|---------|----|
| 25. | Dracena       | Dracaena marginata     | Herb    | 03 |
| 26. | Snake plant   | Dracena trifasciata    | Herb    | 01 |
| 27. | Mint (Pudina) | Mentha piperita        | Sucker  | 02 |
| 28. | Tangedu       | Casia auriculata       | Shrub   | 01 |
| 29. | Amla (Usiri)  | Embllica officinalis   | Shrub   | 01 |
| 30. | Mogilichettu  | Pandanus odorotissimus | Shrub   | 01 |
| 31. | Shankupulu    | Clitoria ternata       | Climber | 02 |

### **Ornamental plants and fruit trees**

| S.N<br>O | NAME OF THE PLANT | BOTANICAL NAME        | HABIT  | NUMBER |
|----------|-------------------|-----------------------|--------|--------|
| 1        | Jungle geranium   | Ixora coccinea        | Shrub  | 07     |
| 2        | Anjeer            | Ficus carica          | Tree   | 01     |
| 3        | Croton            | Croton bomplandianum  | Shrub  | 90     |
| 4        | Supar star croton | Cordiaaeum variegatum | Herb   | 02     |
| 5        | Sky flower        | Duranta errecta       | Bushes | 155    |
| 6        | Frangipani        | Plumaria rubra        | Tree   | 03     |
| 7        | Teak              | Tectona grandis       | Tree   | 01     |
| 8        | Ashoka            | Saraca indica         | Tree   | 36     |
| 9        | Sago palm         | Cycas pectinata       | Tree   | 02     |
| 10       | Bridal bouquet    | Plumaria pudica       | Shrub  | 15     |
| 11       | Thuja             | Thuja                 | Shrub  | 01     |
| 12       | Mango             | Mangifera indica      | Tree   | 02     |

|    |                    |                              |         |    |
|----|--------------------|------------------------------|---------|----|
| 13 | Rose               | Rosa indica                  | Shrub   | 11 |
| 14 | Ganneru            | Nerium indicum               | Shrub   | 10 |
| 15 | Curry leaf         | Murraya coenigi              | Tree    | 01 |
| 16 | Mogra              | Jasmine sambec               | creeper | 03 |
| 17 | Christamas tree    | Aracaria heterophylla        | Tree    | 02 |
| 18 | Date plant         | Phoenix dactylefera          | Tree    | 01 |
| 19 | Banana             | Musa paradisica              | Tree    | 01 |
| 20 | Chamanthi          | Chrysanthimum indica         | Herb    | 05 |
| 21 | Evening prime rose | Mirabilus jalapa             | Herb    | 02 |
| 22 | Crown of thorn     | Euphorbia milli              | Shrub   | 05 |
| 23 | Paper flowers      | Bougainvillea globra         | Herb    | 04 |
| 24 | Rheo discolor      | Tradescantia spathacea       | Herb    | 04 |
| 25 | Kadambam           | Neolamarkia cadamba          | Tree    | 01 |
| 26 | Ramaphalam         | Artabotrys hexapetalus       | Tree    | 01 |
| 27 | Nalleru            | Cissus quadrangularis        | Creeper | 01 |
| 28 | Sugarcane          | Saccharam officinaram        | Shrub   | 03 |
| 29 | Mexican sunflowr   | Tithonia diversifolia        | Tree    | 05 |
| 30 | Corn plant         | Dracaena aungustifolia       | Herb    | 04 |
| 31 | Petra croton       | Codiaeum variegatum<br>petra | Shrub   | 10 |
| 32 | Rad iceton croton  | Codiaeum variegatum          | Herb    | 10 |
| 33 | Areca palm         | Dypsis lutescens             | Tree    | 01 |



|    |                     |                          |       |    |
|----|---------------------|--------------------------|-------|----|
| 34 | Picca been palm     | Archonoto phoenix        | Tree  | 01 |
| 35 | Winin palm          | Veitchis winin           | Tree  | 05 |
| 36 | Mysoore mallelu     | Jasminum grandifolium    | Shrub | 01 |
| 37 | Satyanarayana poolu | Canna indica             | Shrub | 08 |
| 38 | Bonsai              | Adenium besum            | Shrub | 02 |
| 39 | Biodiesel plant     | Jatropha integerima      | Tree  | 01 |
| 40 | Mexican oleander    | Cascabella thevetia      | Shrub | 02 |
| 41 | Devils backbone     | Pedianthus tithymaloides | Shrub | 02 |

4. Suggest plants for your campus. (Trees, vegetables, herbs, etc.)

Trees – Techoma, Usiri, Teak

Vegetables – Tomatoes, Brinjal, Beans, Onion, Lady’s Finger.

Herbs – Mentha, Tulasi, Aloe, Bryophyllum.

5. List the species planted by the students, with numbers.

| Sl.No | Name of the Student | Group  | Name of the Plant | No. of Plants Planted |
|-------|---------------------|--------|-------------------|-----------------------|
| 1     | S Srilekha          | II MBC | Tulasi            | 2                     |
| 2     | B Poojitha          | II MBC | Mango             | 2                     |
| 3     | S Lakshmi           | II BZC | Table Rose        | 5                     |
| 4     | I Harshvardh        | II BZC | Sabza             | 2                     |
| 5     | K Shirisha          | II BZC | Aloe vera         | 2                     |
| 6     | K Manasa            | II BZC | Jasmine           | 2                     |

6. Whether you have displayed scientific names of the trees in the campus?

Yes, we have displayed the scientific names and family of the plants in the college premises to respective plants & trees.

7. Is there any plantations in your campus? If yes specify area and type of plantation. No

8. Is there any vegetable garden in your college? If yes how much area? No

9. Is there any medicinal garden in your college? If yes how much area?

Yes, 30 Sq, Yrds.

10. What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season) No.

11. How much water is used in the vegetable garden and other gardens? (Mention the source and quantity of water used).

The college has built up rain water harvesting pit and also we have the facility of bore water for watering of plants. Daily we are using around 400 ltrs per day of water for gardening.

12. Who is in charge of gardens in your college?

Amina Mumtaz Jahan, Incharge, Department of Botany.

13. Are you using any type of recycled water in your garden? No.

14. List the name and quantity of pesticides and fertilizers used in your gardens? No.

15. Whether you are doing organic farming in your college? How? No.

16. Do you have any composting pit in your college? If yes, what are you doing with the compost generated?

Yes, we are making the compost in the composting pit. We are using this compost to improve garden soil and to top dress of our garden, as a component in potting mixes or for mulching garden. Mixing compost with top soil or potting mixes provides all the benefits of compost to our garden.

17. What do you doing with the vegetables harvested? Do you have any student market? No.

18. Is there any botanical garden in your campus? If yes give the details of campus flora. Yes

19. Give the number and names of the medicinal plants in your college campus. 31 plants

| S.NO | Common Name       | Botanical Name          | Habit   | No of Species |
|------|-------------------|-------------------------|---------|---------------|
| 1.   | Tulasi            | Occimum sanctum         | Herb    | 06            |
| 2.   | papaya            | Carica papaya           | shrub   | 05            |
| 3.   | Billaganneru      | Catharanthus roseaus    | Herb    | 10            |
| 4.   | Guava             | Psidium gujava          | Shrub   | 03            |
| 5.   | Insulin plant     | Chamaecostus cuspidatus | Shrub   | 01            |
| 6.   | Betel leaf        | Piper betel             | Climber | 01            |
| 7.   | Palleru           | Tribulus terrestris     | Shrub   | 01            |
| 8.   | All Spices Plant  | Pimenta dioica          | Shrub   | 01            |
| 9.   | Ranapala          | Bryophyllum Pinnatum    | Herb    | 05            |
| 10.  | Chettu sampenga   | Michelia champaca       | Shrub   | 01            |
| 11.  | Sandal wood plant | Santalum album          | Shrub   | 01            |
| 12.  | Ramaphalam        | Annona reticulata       | Shrub   | 01            |
| 13.  | Seethaphalam      | Annona squamosa         | Shrub   | 01            |
| 14.  | Kalabanda         | Aloe vera               | Herb    | 05            |
| 15.  | Tippateega        | Tinospora cordifolia    | Herb    | 05            |
| 16.  | Gorintaku         | Lawsonia inermis        | Shrub   | 06            |
| 17.  | Neem              | Azadirachta indica      | Tree    | 03            |

|     |               |                           |         |    |
|-----|---------------|---------------------------|---------|----|
|     |               |                           |         |    |
| 18. | Datura        | Datura metel              | Shrub   | 01 |
| 19. | Kanuga        | Pongamia pinnata          | Tree    | 01 |
| 20. | Parijatam     | Nyctanthus arbortristis   | Shrub   | 01 |
| 21. | Nandivardanam | Tabernaemontana coronaria | Shrub   | 01 |
| 22. | Neredu        | Syzizium cumini           | Tree    | 01 |
| 23. | Nela usiri    | Phyllanthus niruri        | Herb    | 05 |
| 24. | Mandara       | Hibiscus rosasinensis     | Shrub   | 06 |
| 25. | Dracena       | Dracaena marginata        | Herb    | 03 |
| 26. | Snake plant   | Dracena trifasciata       | Herb    | 01 |
| 27. | Mint (Pudina) | Mentha piperita           | Sucker  | 02 |
| 28. | Tangedu       | Casia auriculata          | Shrub   | 01 |
| 29. | Amla (Usiri)  | Emblica officinalis       | Shrub   | 01 |
| 30. | Mogilichettu  | Pandanus odorotissimus    | Shrub   | 01 |
| 31. | Shankupulu    | Clitoria ternata          | Climber | 02 |

20. Any threatened plant species planted/conserved? No.

21. Is there a nature club in your college? If yes what are their activities?

Yes.

- Conducted periodical plantation under Eco Club
- Celebrated Eco Friendly Holy
- Conducted Essay writing and elocution competition on different environmental issues.

22. Is there any arboretum in your college? If yes details of the trees planted. No.

23. Is there any fruit yielding plants in your college? If yes details of the trees planted.

Yes, Guava, Papaya, Anona, Banana, Anjeer.

24. Is there any groves in your college? If yes details of the trees planted. No.

25. Is there any irrigation system in your college? No.

26. What is the type of vegetation in the surrounding area of the college?

There is no vegetation in the surrounding area of the college as the college is situated in the city center surrounded with commercial and residential buildings.

27. What are the nature awareness programmes conducted in the campus?

We have conducted different nature awareness programs such as,

- Periodical Plantation.
- Clean & Green Programs.
- Conducted competitions like essay writing, elocution, singing etc., on different environmental topics such as "environment & protection", "save environment", "Our environment and making it green", "plastic is friend or foe" etc.,
- Conducted eco friendly holy.
- Arranged rallies on plantation under Harithahaaram.
- Making Ganesh Idols with mud.
- Medicinal plant garden.

28. What is the involvement of students in the green cover maintenance?

Students take part in

- periodical plantation programs,
- clean & green programs,
- watering the plants now and then,
- Eco club students, NSS & NCC students and other students are involved in green campus activities.
- Students participate in the maintenance of botanical garden and medicinal garden of our college.

29. What is the total area of the campus under tree cover? Or under tree canopy?

268 Sq.Yrds.

30. Share your IDEAS for further improvement of green cover.

- To improve the number of samplings in the medicinal garden.
- Creating eco friendly rules in the college.



Clean and green program under eco club.



Eco friendly Holi celebrated



Medicinal plants of college.



Plantation program in college premises

## AUDITING FOR CARBON FOOTPRINT

1. What is the total strength of students and teachers in your College?

| No. of Students | No. of Teachers | No. of Non-teaching staff | Gents | Ladies | Total |
|-----------------|-----------------|---------------------------|-------|--------|-------|
| 2,979           | 62              | 22                        | 44    | 3,019  | 3,063 |

2. Total Number of vehicles used by the stakeholders of the college. (per day)

45

3. No. of cycles used

NIL

4. No. of two wheelers used (average distance travelled and quantity of fuel and amount used per day)

| No. of two wheelers used | average distance travelled (km) | quantity of fuel (Ltrs) per day | amount used per day (Rs.) |
|--------------------------|---------------------------------|---------------------------------|---------------------------|
| 40                       | 320                             | 8                               | 800                       |

5. No. of cars used (average distance travelled and quantity of fuel and amount used per day)

| No. of Cars | Avg KM | average distance travelled | quantity of fuel (Ltrs) per day | amount used per day (Rs.) |
|-------------|--------|----------------------------|---------------------------------|---------------------------|
| 5           | 41.6   | 208                        | 11.5                            | 1150                      |

6. No. persons using common (public) transportation (average distance travelled and quantity of fuel and amount used per day)

16%

7. No. of persons using college conveyance by the students, non-teaching staff and teachers (average distance travelled and quantity of fuel and amount used per day)

Not Applicable.

8. Number of parent-teacher meetings in a year? Parents turned up (approx.)

02

9. Number of visitors with vehicles per day?

15 to 20 Per Day

10. Number of generators used per day (hours). Give the amount of fuel used per day.

01 – Not Working

11. Number of LPG cylinders used in the canteen (Give the amount of fuel used per day and amount spent).

01, Rs.30 Per Day.

12. Quantity of kerosene used in the canteen/labs (Give the amount of fuel used per day and amount spent).

NIL

13. Amount of taxi/auto charges paid and the amount of fuel used per month for the transportation of vegetables and other materials to canteen.

1200

14. Amount of taxi/auto charges paid per month for the transportation of office goods to the college.

NIL

15. Average amount of taxi/auto charges paid per month by the stakeholders of the college.

12,000



16. Use of any other fossil fuels in the college (Give the amount of fuel used per day and amount spent).

NIL

17. Suggest the methods to reduce the quantity of use of fuel used by the stakeholders/students/teachers/non-teaching staff of the college.

Using of Bicycles, electric vehicles, and Public Transport.

18. Are the Rooms in Campus are Well Ventilated? Yes/No

Yes

91. Window Floor ratio of the Rooms Good/Not Enough

Good.

### **Carbon Footprint - Report**

- Petrol used by two wheelers/day-  $25 \times 0.5 \text{ Ltrs} = 12.5 \text{ Ltrs Per Day}$
- (Per person to and fro 40 Kms=1L) Fuel used by four wheelers (52 Persons) -  $5 \times 1 \text{ Ltrs} = 5 \text{ Ltrs Per Day}$
- (Per person to and fro 40 Kms=2L) Fuel for persons (total 2314 persons) travelling by common Transportation =  $184 \text{ L} (4\text{L} \times 50 \text{ persons}) = 25 \text{ Ltrs}$

Total fossil fuel use is 517 L / day

NIL

Total fuel cost per day for transportation =Rs. 36190/- (517 L x Rs 70 )

$42.5 \text{ L} \times \text{Rs.}90 = \text{Rs.}3,825/-$

Cost of stakeholder transportation per month (Rs.36190x22 days)-  
Rs.12,000/-

## 1. Water management

| SL NO | PARAMETERS  | Response                     | Remarks |
|-------|---|------------------------------|---------|
| 1     | Source of water                                       | Bore water & Municipal water |         |
| 2     | No. of Wells  | 01                           |         |
| 3     | No. of motors used                                    | 01                           |         |
| 4     | Horse power – Motor                                   | 1.05HP                       |         |
| 5     | Depth of well –Total                                  | 200 feet                     |         |
| 6     | Water level   | 20 feet                      |         |
| 7     | Number of water tanks                                 | Over head tank-1             |         |
| 8     | Capacity of tank                                      | 15,000L                      |         |
| 9     | Quantity of water pumped every day                    | 6000L                        |         |
| 10    | Any water wastage/why?                                | NO                           |         |
| 11    | Water usage for gardening                             | 400L                         |         |
| 12    | Waste water sources                                   | RO plant                     |         |
| 13    | Use of waste water                                    | Used for plants              |         |
| 14    | Faith of waste water from labs                        | -                            |         |
| 15    | Whether waste water from labs mixed with ground water | NO                           |         |
| 16    | Any treatment for lab water                           | NO                           |         |
| 17    | Whether any green chemistry method practiced in labs  | NO                           |         |
| 18    | No. of water coolers                                  | NO                           |         |

|    |  |     |  |
|----|--|-----|--|
| 19 | Rain water harvest available?                                | YES |  |
| 20 | No. of units and amount of water harvested                   | 01  |  |
| 21 | Any leaky taps   | NO  |  |
| 22 | Amount of water lost per day                                 | Nil |  |
| 23 | Any water management plan used?                              | NO  |  |
| 24 | Any water saving techniques followed?                        | YES |  |
| 25 | Are there any signs reminding peoples to turn off the water? | YES |  |

### Results of water quality

| Parameters                   | Bore Well water | Municipal Tap water | Standard value (BIS) |
|------------------------------|-----------------|---------------------|----------------------|
| Dissolved Oxygen (mg/l)      | 6               | 7                   | 6-8                  |
| Acidity (mg/l)               | 175             | 60                  | 200                  |
| Alkalinity (mg/l)            | 345             | 85                  | 200                  |
| Chloride (mg/l)              | 120             | 75                  | 250                  |
| Hardness (Total)             | 350             | 50-80               | 200                  |
| Conductivity ( $\mu$ s)      | 1000            | 185                 |                      |
| Ph.                          | 8.2             | 7.2                 | 6.5-8.5              |
| Total Dissolved Solids (ppm) | 625             | 320                 | 500                  |
| Salinity (ppt)               | 0.216           | 0.135               |                      |
| Total coliform               | 0               | 0                   | 0                    |
| Fecal coliform               | 0               | 0                   | 0                    |

**Water Quality analysis (Biological) report of college – II  
(with Photographic evidence)**

| S.No | Parameter/ WHO permissible level | Zooplankton (No of Samples/Sites) | Methodology             |
|------|----------------------------------|-----------------------------------|-------------------------|
| 1    | Protozoan (Ciliates)             | Nil                               | Microscopic Observation |
| 2    | Rotifers                         | Nil                               | Microscopic Observation |
| 3    | Ostracods                        | Nil                               | Microscopic Observation |
| 4    | Insect Larvae                    | Nil                               | Microscopic Observation |
| 5    | Water Fleas                      | Nil                               | Microscopic Observation |
| 6    | Bivalves                         | Nil                               | Microscopic Observation |
| 7    | Snails                           | Nil                               | Microscopic Observation |
| 8    | Mussels                          | Nil                               | Microscopic Observation |
| 9    | Any Other (Specify)              | Nil                               | Microscopic Observation |

**Water Quality analysis (Biological) report of college – II (with Photographic evidence):**

| S.No | Phytoplanktons                | Scientific Name and number | Methodology             |
|------|-------------------------------|----------------------------|-------------------------|
| 1    | Diatoms (Bacillariophyceae)   | Absent                     | Microscopic Observation |
| 2    | Dinoflagellates (Dinophyceae) | Absent                     | Microscopic             |

|   |  |        |                            |
|---|--|--------|----------------------------|
|   |  |        | Observation                |
| 3 | Coccolithophores<br>(Prymnesiophyceae )      | Absent | Microscopic<br>Observation |
| 4 | Green algae (Chlorophyceae)                  | Absent | Microscopic<br>Observation |
| 5 | Cyanobacteria (earlier Blue-<br>green algae) | Absent | Microscopic<br>Observation |
| 6 | Others (specify)                             | Absent | Microscopic<br>Observation |

**Faunal diversity in college campus (with Photographic evidence)**

| <b>Faunal group</b>  | <b>Scientific name</b>          | <b>Number<br/>(If enumeration is done)</b> | <b>Seasonality</b> |
|--|---------------------------------|--|--------------------|
| Spiders  | Argiope,<br>Lactrodectus        | 60   | Rainy              |
| Moths & butterflies  | Arhopala,<br>Belenois           | 100  | Rainy              |
| Other insects:<br>(Dragon Flies, Bees,<br>Wasps, Bugs, and<br>Beetles etc..) | Anax, Birittatus<br>Dissostiera | 150  | Rainy              |
| Annelids   | Peretema                        | 100  | Rainy              |
| Other Arthropods   | Pereplanata,<br>Parasteatoda    | 60   | Winter             |
| Amphibians   | Rana tigrina                    | 70   | Rainy              |
| Reptiles   | Gecko calotes                   | 40   | Winter &<br>Rainy  |
| Birds  | Columba<br>caerus, Passer       | 20   | Winter             |
| Mammals  | Funambulus,<br>Caris            | 10   | Winter             |
| Any other (specify)  | Pteropus                        | 10   | Winter             |

**Air quality Determination:  
Air Quality Index (parameters studied/recorded/ Seasonal):**

|                     |                                   |
|---------------------|-----------------------------------|
| NO <sub>2</sub>     | 14.3 µg/m <sup>3</sup> , AQI - 17 |
| NO                  | -                                 |
| O <sub>3</sub>      | 41.51 - AQI - 41                  |
| PM2.5               | 16.4 µg/m <sup>3</sup> , AQI - 16 |
| PM10                | 76.2, AQI-76                      |
| CO                  | 1220 µg/m <sup>3</sup> , AQI - 61 |
| Humidity            | 57.0%                             |
| Barometric Pressure | 1008.0 hpa                        |
| Wind Speed          | 6.04 m/s                          |
| Wind Direction      | 60.0 Degree                       |
| Sun Rise            | East                              |
| Sun Set             | West                              |

**Measurements of Noise level in and around the college**

| S.No | place (S)           | Measurements<br>(Duration in<br>seconds) | Minimum<br>(dBA) | Maximum<br>(dBA) | Average<br>(dBA) |
|------|---------------------|--|------------------|------------------|------------------|
| 1    | Library             | 60 Sec's                                 | 0                | 0                | 0                |
| 2    | Canteen             | 60 Sec's                                 | 35               | 52               | 43.5             |
| 3    | Play ground         | 60 Sec's                                 | 23               | 42               | 33               |
| 4    | Auditorium          | -  | -                | -                | -                |
| 5    | Science Block       | 60 Sec's                                 | 10               | 15               | 12               |
| 6    | Any Other (Specify) | -  | -                | -                | -                |

If any eco-friendly or restoration activities conducted, please specify.

### **GRADING FOR ENVIRONMENTAL AUDIT REPORT**

| <b>S.NO</b> | <b>COMPONENTS FOR ASSESSMENT</b>  | <b>MARKS</b> | <b>GRADES</b>      |
|-------------|---|--------------|--------------------|
| 1           | Energy audit  | <b>20</b>    | <b>A+ : 91-100</b> |
| 2           | Waste audit   | <b>15</b>    |                    |
| 3           | Water audit   | <b>15</b>    |                    |
| 4           | Landscape or Environment audit  | <b>15</b>    | <b>A : 81-90</b>   |
| 5           | Carbon footprint & Oxygen emission audit  | <b>15</b>    |                    |
| 6           | Green activities (conduction of seminars/conferences/workshops/student competitions/awareness programmes/observation of environmental related days etc. | <b>10</b>    | <b>B+ : 71-80</b>  |
| 7           | Student clubs (Environmental club/Green club/Nature club/Biodiversity club/ ECO Club/Friends and Fauna Club/Science club etc.) activity annual report   | <b>10</b>    | <b>B : 61-70</b>   |
|             |   |              | <b>C : 51 - 60</b> |
|             | <b>Total</b>  | <b>100</b>   |                    |

for Commissioner of Collegiate Education