GREEN AUDIT REPORT 2020-2021

INTERNAL QUALITY ASSURANCE CELL (IQAC)

GIRRAJ GOVERNMENT COLLEGE (A)

NIZAMABAD - TELANGANA

Proceedings of the Principal, Girraj Govt. College (A), Nizamabad

Present: Sri. Dr. E. Laxmi Narayana, M.A., B.Ed., Ph.D.

Date: 26-April-2021

Sub: Appointment of Green Audit College Level committee for A.Y 2020-21 – Orders – Issued.

Ref: CCE-AC/QLTY/NAAC/1/2021-ACADEMIC CELL Dated 23-April-2021

ORDER:

The undersigned is pleased to appoint the following staff members in the Green Audit for the A.Y 2020-21.

S.No.	Name of the Faculty	Designation
1	Dr. E.Laxmi Narayana Principal (FAC), GCA Nizamabad	Chairman
2	Sri. S.Ranga Rathnam Principal (FAC), GDC Bodhan	External Member
3	Sri. K. Bharth Raj, HOD of Physics	Convener
4	Sri. P.V.V. Satya Varaprasad, HOD of B.Com computers	Member
5	Dr.P.Latha, HOD of Botany	Member

6	Sri.G.Srinivas Reddy, HOD of Zoology	Member
7	Mohd Tousif Ahmed, Asst.Prof of Chemistry	Member
8	Sri.S. Jaya Prasad, HOD of Mathematics	Member
9	1) P.Meghana(M.S.Cs III Yr) 2) K.Bhavana (M.P.Cs III Yr) 3) P.Akshaya(M.S.Cs III Yr) 4) .Srikanth(MPG III Yr) 5)P.Prashanth (MPC III Yr) 6)M.Vikas(MECS III Yr)	Student Volunteers

The above mentioned Faculty members are instructed to do the Green Audit in our college and submit the report to Principal.

Principal
Qirraj Govt. College (A)
NIZAMABAD.

Principal

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INTRODUCTION:

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of an institute. It aims to analyse environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO2 from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

About the college

Girraj Govt. College is an autonomous Arts, Science and Commerce College well acclaimed for its academic excellence, curriculum development and innovative research. It is the only autonomous and one of the largest institutions affiliated to Telangana University, Nizamabad. It came into existence as a pride of Northern telangana in the year 1956. It is striving for promoting higher education and for the upliftment of socially and economically backward and minority communities of Nizamabad and surrounding districts. The college was started with 6 conventional Under Graduate courses in 1956, and subsequently upgraded continuously with Self Financed Under Graduate and Post Graduate courses on par with global demand. Today the college has spread its wings by offering 20 UG and 9 PG courses and indeed proved to be a front runner in the field of higher education in this region.

Vision

To build a vibrant multicultural learning environment founded on value based academic principles, wherein all involved shall contribute effectively, efficiently and responsibly to the Nation and Global Community.

Mission

To strengthen the thought process and personality of the student. To make the student self-dependent. To enrich the basic knowledge of students in academics. To benchmark career goals offering academic excellence. To follow the global trends, not forgetting the local relevance. To develop advanced and precise academic experience. To organize national level programs for creating global awareness and interaction. Education & research partnership with Universities, industry.

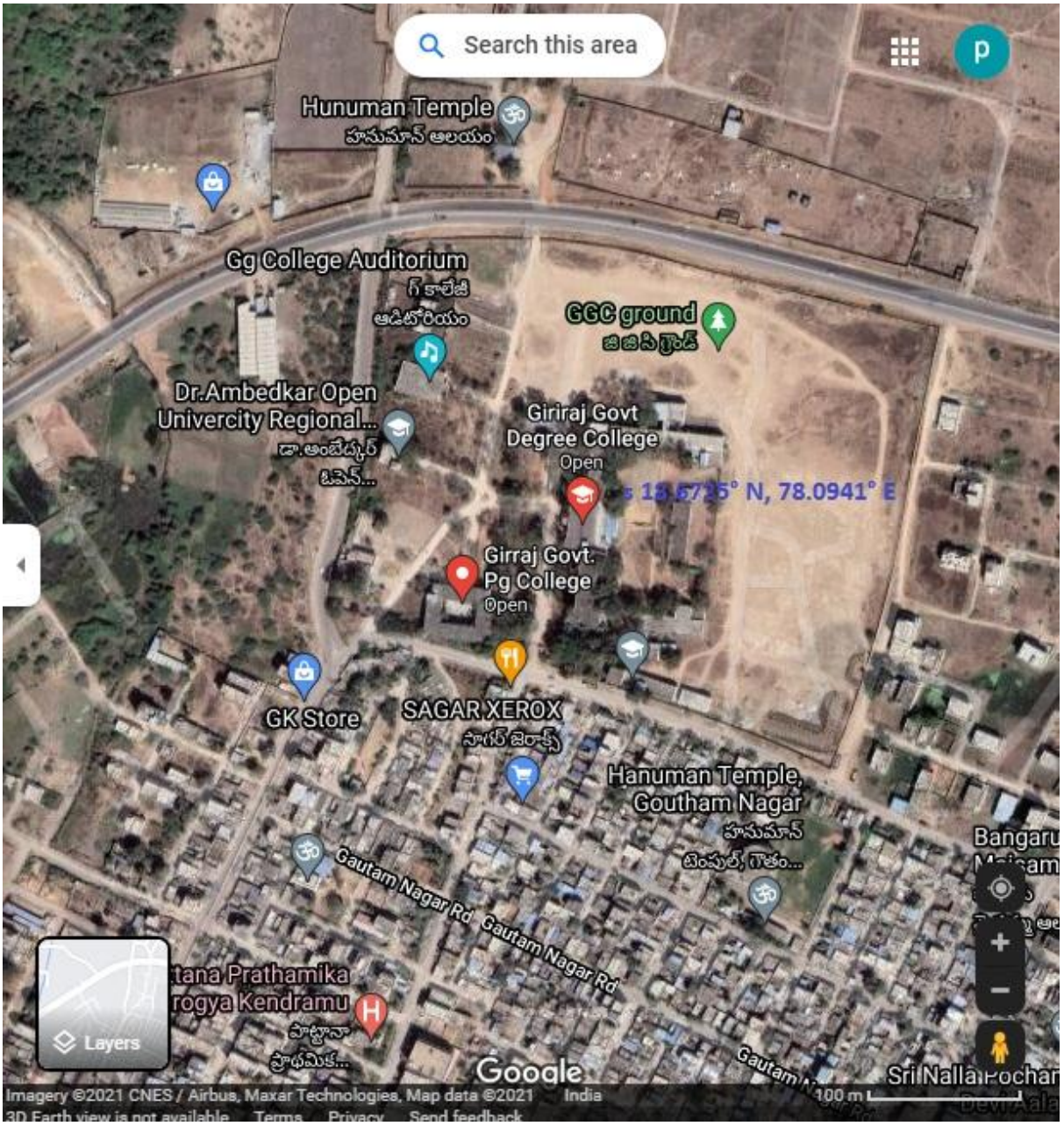


Fig1. Location of Girraj Govt. College(A), Nizamabad

OBJECTIVES OF GREEN AUDIT

The main objective of this green audit is to assess the environmental quality and the management strategies being implemented in Girraj Govt. College(A), Nizamabad

.The specific objectives are:

1. To assess the quality of the water and soil in the Girraj Govt. College college campus
2. To monitor the energy consumption pattern of the college
3. To quantify the liquid and solid waste generation and management plans in the campus.
4. To assess the carbon foot print of the college
5. To assess whether the measures implemented by Girraj Govt. College have helped to reduce the Carbon Footprint.
6. To impart environment management plans to the college.
7. Providing a database for corrective actions and future plans.
8. To assess whether extracurricular activities of the Institution support the collection, recovery, reuse and recycling of solid wastes.
9. To identify the gap areas and suggest recommendations to improve the Green Campus status of the Girraj Govt. College.

TARGET AREAS OF GREEN AUDITING

Green audit forms part of a resource management process. Although they are individual events, the real value of green audit is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Eco-campus concept mainly focuses on the efficient use of energy and water; minimize waste generation or pollution and also economic efficiency.

All these indicators are assessed in the process of “Green Auditing of this educational institute‟. Eco-campus focuses on the reduction of contribution to emissions, procure a cost effective and secure supply of energy, encourage and enhance energy use conservation, promotes personal action, reduce the institute’s energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. Target areas included in this green auditing are water, energy, waste, green campus and carbon footprint.

Auditing for Water Management

Water is a natural resource; all living organisms depend on water. While freely available in many natural environments, in human settlements potable (drinkable) water is less readily available. Groundwater depletion and water contamination are taking place at an alarming rate. Hence it is essential to examine the quality and usage of water in the college. Water auditing is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The concerned auditor investigates the relevant method that can be adopted and implemented to balance the demand and supply of water.

Auditing for Energy Management

Energy conservation is an important aspect of campus sustainability which is also linked with carbon foot print of the campus. Energy auditing deals with the conservation and methods to reduce its consumption related to environmental degradation. It is therefore essential

that any environmentally responsible institution examine its energy use practices.

Auditing for Waste Management

Human activities create waste, and it is the way these wastes are handled, stored, collected and disposed of, which can pose risks to the environment and to public health. Pollution from waste is aesthetically unpleasing and results in large amounts of litter in our communities which can cause health problems. Solid waste can be divided into three categories: bio-degradable, non-biodegradable and hazardous waste. Bio-degradable wastes includes food wastes, canteen waste, wastes from toilets etc. Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles etc. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals, acids and petrol. Unscientific management of these wastes such as dumping in pits or burning them may cause harmful discharge of contaminants into soil and water supplies, and produce greenhouse gases contributing to global climate change respectively. Special attention should be given to the handling and management of hazardous waste generated in the college. Bio-degradable waste can be effectively utilized for energy generation purposes through anaerobic digestion or can be converted to fertilizer by composting technology. Non-biodegradable waste can be utilized through recycling and reuse. Thus the minimization of solid waste is essential to a sustainable college. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems.

Auditing for Green Campus Management

Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen. The amount of oxygen released by the trees of the campus is good for the people in the campus. So while you are busy studying and

working on earning those good grades, all the trees in campus are also working hard to make the air cleaner for you.

Auditing for Carbon Footprint

Burning of fossil fuels (such as petrol) has an impact on the environment through the emission of greenhouse gases into the atmosphere. The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide and ozone. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. Vehicular emission is the main source of carbon emission in the campus, hence to assess the method of transporation that is practiced in the college is important.

METHODOLOGY ADOPTED

Onsite Visit

Four day field visit was conducted by the Green Audit Team . The key focus of the visit was on assessing the status of the green cover of the Institution, their waste management practices and energy conservation strategies etc. The sample collection (water, soil) was carried out during the visits. The water samples from two open wells and two tap water sources were taken and soil samples from three different places of the campus was collected. The sample collection, preservation, and analysis were done in the scientific manner as prescribed by the standard procedures.

Focus Group Discussion

The Focus Group discussions were held with the Eco-club members, staff members and the management focusing various aspects of Green Audit. The discussion was focused on identifying the attitudes and awareness towards environmental issues at the institutional and local level.

Energy, waste management and Carbon foot print analysis Survey

With the help of teachers 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 survey method.

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

College Profile
Name of the College: **GIRRAJ GOVT. COLLEGE**
Address: **DUBBA, NIZAMABAD**
Contact Info: **6304696919**
Campus Area: **27.23 ACRES**
Built-up Area: **97.482 SQ. MTS**
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	2022	2839	4861
No of Teaching staff	68	42	110
No of Non-Teaching staff	10	7	17

Physical Structure
The available land of the college: **27.23 ACRES**
The built-up area of the college: **97.482 SQ. MTS**

No. of Class Rooms	40
No. of Laboratories	18
No. of Conference halls	03
Library Halls	04
Auditorium	01
Canteen	01
Any other(please specify)(Toilets)	06

Objectives:	➢ Environmental risk assessment ➢ Waste minimization and environmental pollution control plans. ➢ The optimal utilization of energy, water and other natural resources. ➢ Recycling programs and product life considerations. ➢ Emergency plans and procedures.
Prepared by:	K. Bharath raj
Approved by:	Dr. E. Laxminarayana
Remarks:	
FORMS AND SUPPORT MATERIAL	
Questionnaire document ref. name/no.:	Enclosed
Checklist for Environmental Audit document ref. name/no.	
Additional forms and support material:	

AUDITING FOR WATER MANAGEMENT

1. List out uses of water in your college.

    1. Drinking
    2. Cleaning
    3. Toilets
    4. Laboratories
    5. Garden
    6. Canteen
    7. Hostel

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

ANS: Ground water

3. How many wells are there in your college?

ANS: There are 3 bore wells.

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

ANS: One motor is being used for each bore well

5. What is the total horsepower of each motor?

ANS:5HP, 3HP and 2 HP

6. What is the depth of each well?

ANS: 450, 300 and 300 feet

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

ANS: 100 feet approximately.

8. How does your college store water?

ANS: Water from the bore well is stored in 3 overhead water tanks.

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

ANS: 6000 Liter capacity (3X2000) Liter

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

ANS: 12000 Liters

11. If there is water wastage, specify why.

ANS: Some quantity of water comes from RO water plant during the filtration process. That water is used for the garden.

12. How can the wastage be prevented / stopped?

ANS: Regular maintenance of RO water plants could minimize the waste water output from the plant.

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

ANS: Point of entry – Nil

Point of Exit – RO plant to Garden

14. Where does wastewater come from?

ANS: RO water plant

Water coolers

15. Where does the waste water go?

ANS: To the garden.

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

ANS: The waste water from RO plant and water coolers is used for watering the garden.

The waste water from labs, hostel and canteen enters the drainage.

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

ANS: The used water from labs directly enters into drainage and that does not get mixed with ground water.

18. Is there any treatment for the lab water?

ANS: No. We have no waste water treatment plant or special equipment for treating waste water from laboratories.

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

ANS: No.

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

ANS:

a) Regular **checkup toilets** and labs for leaky taps and **fixing** them immediately.

b) Installation of **Aerators** which reduce the amount of water flowing from the tap by up to 50%, while maintaining the pressure.

c) Urinal upgrades: fitting efficient **automatic flush controls** on urinals to turn on the water control when it is required.

d) Constituting **a water team** with staff and students to monitor the wastage of water in the college, canteen and hostel.

e) Conducting **awareness programs** to students and staff on water conservation in the college.

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

ANS: Not Available

22. Bimonthly water charges paid to water connections if any

ANS: Nil.

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

ANS: 4 water coolers with 200 liter capacity each

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

ANS: 142 taps. Approximately 10000 Liter water is being used per day.

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

ANS: Total 18 bathrooms in all staff rooms, common, hostels. Amount of water used per day is 3000 Liters approximately.

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

ANS: Total 35 toilet, urinals. The amount of water used per day is approximately 5000 Liters.

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

ANS: There are 4 taps in the canteen. Around 1000 liters of water used per day.

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

ANS: 1500 liters of water from RO plant and water coolers used for garden.

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

ANS: Total 92 water taps are there in the labs. Daily 2000 liters of water used in the labs.

30. Total use of water in each hostel?

ANS: 2000 liters of water used in hostel.

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.

ANS:

S. No.	Item	Quantity of water used per day in liters
1	Toilets	5000
2	Labs	2000
3	R.O. plant	2000
4	Hostel	2000
5	Canteen	1000
	Total	**12000**

32. Is there any water used for agricultural purposes?

ANS: No.

33. Does your college harvest rain water?

ANS: Yes

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

ANS: There are 3 rain water harvesting units.

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

ANS: Nil.

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

ANS: Yes

37. Is there any waterless toilets?

ANS: No.

38. How many water fountains are there?

ANS: Nil

39. How many water fountains are leaky?

ANS: Nil

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

ANS: No.

41. How often is the garden watered?

ANS: Daily

42. Quantity of water used to watering the ground?

ANS: 1500 Liters.

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

ANS: Nil. (There is no college bus)

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

ANS: Nil

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

ANS: 10 Acre land

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

ANS: Yes.

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

ANS:

- Regular checkup of taps for leakages and repairing the damaged taps.
- Regular maintenance of RO Plant.
- Putting signs to remind the students and staff to turn off the water.

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

ANS:

- Installation of Aerators to taps that save around 50% of water.
- Automatic flush controls in urinals.
- Conducting awareness programs for students and staff.

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).

Ans: Electricity, Petrol/diesel, Microwave.

2. Electricity bill amount for the last year

Ans: Rs.330897.6 /- June-20 to May-21

3. Amount paid for LPG cylinders for last one year.

Ans: Rs.2205/-

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

Ans: Nil

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

Ans: No, Suggested to instal solar panels to generate electricity.

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

Ans: ₹27574.8 /-

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

Ans: Nil

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

Ans: Nil

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

Ans: 39, 10hr/day, 28 days/month

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

Ans:163.8

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

Ans: Nil

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

Ans: Nil

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

Ans: 253, 10hr/day, 28 days/month

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

Ans: 4250.4 kWh/month

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

Ans: 13, 10hr/day, 15 days/month

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

Ans: 15600 kWh/month

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)

Ans: A separate sheet is attached

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

Ans: A separate sheet is attached

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

Ans: 365

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

Ans: 27375 kWh/month

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

Ans: 6, 10hr/day, 25 days/month

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

Ans: A separate sheet is attached

23. Energy used by each cooling apparatus per month? (kWh) Mention use (Hours used/day for how many days in a month)

Ans: A separate sheet is attached

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)

Ans: A separate sheet is attached.

25. Energy used by each inverter per month? (kWh).
26. How many electrical equipment are used in different labs of your college? Mention the use (Hours used/day for how many days in a month)
27. Energy used by each equipment per month? (kWh)
28. How many heaters are used in the canteen of your college? Mention the use (Hours used/day for how many days in a month)

Ans: Nil

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

Ans: Nil

30. No of street lights in your college?

31. Energy used by each street light per month? (kWh)
32. No of TV in your college and hostels?

Ans: Nil

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

Ans: Nil

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)

Ans: A separate sheet is attached.

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.

Ans:No

36. Do you run “switch off” drills at college?

Ans: Yes

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

Ans: Yes

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

Ans: Yes, A separate sheet is attached.

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

Ans: Installing LED bulbs, Use energy efficient appliances, drive less, walk more, switch off appliances when not in use, Plant shady landscaping, using energy efficient windows, Using bicycles, Get energy audit done every year.

40. How many boards are displayed for saving energy awareness?

Ans: 5

41. How much ash is collected after burning firewood per day in the

Canteen?

Ans: Nil

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

Ans: a)Employment of solar panels and other renewable energy sources. b)Conduct more save energy awareness programs for students and staff. c)Replace computers with LED monitors. d) More energy efficient fans should be replaced. e) Observe a power saving day every year. f) Automatic power switch off systems may be introduced.

ENERGY AUDIT REPORT - 2021

Sl. No	Electrical appliances/instruments	Number	Power (W)/	Total power(W)	kW	Operation	kW/hr.	No. of days in month	Total consumption per month
1	TUBE	340	40	13600	13.6	10	136	28	3808
2	LED BULB	39	15	585	0.585	10	5.85	28	163.8
3	PROJECTOR	6	300	1800	1.8	6	10.8	20	216
4	SPEAKERS	10	10	100	0.1	6	0.6	20	12
5	FAN	253	60	15180	15.18	10	151.8	28	4250.4

6	COMPUTER	365	300	109500	109.5	10	1095	25	27375
7	LAPTOPS	5	60	300	0.3	10	3	20	60
8	PRINTERS	20	60	1200	1.2	10	12	25	300
9	PHOTOSTAT machine	6	800	4800	4.8	10	48	25	1200
10	SCANNER	4	60	240	0.24	10	2.4	20	48
11	UPS	6	1200	7200	7.2	10	72	20	1440
12	A/C	13	8000	104000	104	10	1040	15	15600
13	REFRIGERATOR	6	200	1200	1.2	24	28.8	30	864
14	TABLE FAN	4	55	220	0.22	10	2.2	15	33
15	CENTRIFUGE	1	4	4	0.004	6	0.024	20	0.48
16	EXHAUST FAN	14	32	448	0.448	10	4.48	28	125.44
17	INCUBATOR	1	60	60	0.06	6	0.36	15	5.4

18	**DISTILLATION UNIT**	**3**	**1200**	**3600**	**3.6**	**10**	**36**	**28**	**1008**
19	**CCTV DVR**	**1**	**20**	**20**	**0.02**	**24**	**0.48**	**30**	**14.4**
	Total consumption per month	**1097**	**12476**	**264057**	**264.057**	**202**	**2649.794**	**440**	**56523.92**

AUDITING FOR WASTE MANAGEMENT

S.No	Available List	Number	Area occupied
01	Garden	01	822.959 Sq.mts
02	Playground	01	37221.932 Sq.mts
03	Toilets	10	850 Sq.mts
04	Class rooms	40	33734 Sq.mts
05	Laboratory	09	40296 Sq.mts
06	Car/ Scooter shed	02	1175.716 Sq.mts
07	Office rooms	06	6313 Sq.mts
09	Hostel	01	569 Sq.mts
10	Canteen	01	80.118 Sq.mts
11	Auditorium	01	576 Sq.mts

WASTE GENERATION

1. **Dry leaves, Flowers and Twigs are generated by college garden and campus.**

2. **The Solid waste is generated by class rooms and office are in the form of books, papers, records and damaged furniture.**

3. **Liquid waste is generated in wash rooms.**

4. **Canteen waste mainly consists of various food items.**

5. **E-waste is generated in computer labs which includes damaged computers and chips, electronic and electrical parts.**

6. **Glass waste is from broken glass wares in the laboratory.**

7. **Plastic waste is mainly generated from canteen in the form of tea cups, water bottles and food covers.**

8. **Laboratory waste consists chemicals.**

S.No	Waste	Quantity/Weight per day	Waste treatment system
01	Dry leaves		Initiation of Vermicomposting
02	Solid waste		Disposal by selling
03	Liquid waste		Waste water from wash rooms to water pits and Municipal drainage system

04	**Canteen waste**	**Nil**	**-**
05	**E-waste**		**There is no treatment**
06	**Glass waste**		**Broken glass items are sent to Municipal waste collection centres**
07	**Plastic waste**		**Disposal by burning**
08	**Laboratory waste**		**Expired chemicals are not used-no treatment**

Office and Classrooms

Approx.	**Bio degradable**	**Non-Bio degradable**	**Hazardous**	**Remarks**
<1Kg				
2-10Kg	**3kg/day (approx.)**			**Papers, records**
>10Kg				

Laboratories

Approx.	Bio degradable	Non-Bio degradable	Hazardous	Remarks
<1Kg				
2-10Kg	2.5Kg/day			records
>10Kg				

AUDITING FOR GREEN CAMPUS MANAGEMENT

1. Is there a garden in your college? Area?

Ans: Yes, The Department of Botany maintains a botanical garden which consists of Wild and Ornamental Plants. The botanical garden caters to the needs of students for their practical work, the students collect plant twigs from the garden for their taxonomy practicals. Under Shade net
approximate area in which Botanical Garden Located

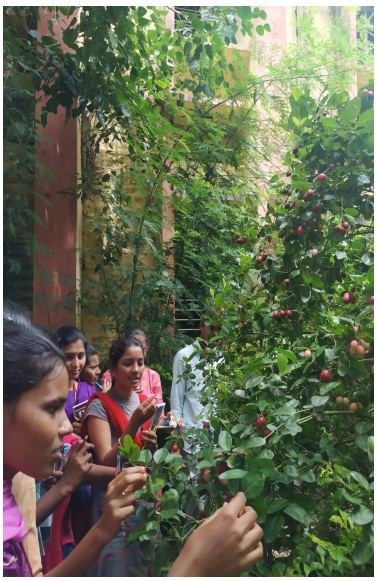
Shade Net - 100 square yards and Botanical garden area 1350 square yards(Botany dept. backside area-443 sqaure yards +Botanical Garden-911square yards (Zoology dept back side))

Species of Plants / Trees in the Botanical Garden approximately 92 (Botanical Garden -23 + College campus- 69)

2. Do students spend time in the garden?

Ans: Yes , Field visit & Herbarium collection on 11th Sept 2019
https://youtu.be/x4wo3BihxbM
Field Visit & Herbarium Collection -M.Sc. Botany -Students on March 26th 2019
https://botanyggcnzb.blogspot.com/2021/05/field-visit-herbarium-collection-msc.html


Field visit & Herbarium collection on 11th Sept 2019



Field Study & Herbarium Collection in college premises -12h September,2018

3. List the plants in the garden, with approx. numbers of each species.

Plant Species recorded in the college campus-92

Sl. No	Botanical Name	vernacular / common name	Family	No. of Specie	Herb/ Shrub /Trees

				s	
1	Crossandrum infundibuliformis	kanakambaram	Acanthacae	5	Shrub
2	Dracaena angustifolia	Dracaena	Agavaceae	10	Herb
3	Zephyranthes atamasca	rain lilly (White colour)	Amarillidaceae	6	Herb
4	Zephyranthes citria	rain lilly (Yellow colour)	Amarillidaceae	5	Herb
5	Mangifera indica	mamidi	Anacardiaceae	4	Tree
6	Annona reticulata	ramaphalamu	Annonaceae	3	Tree
7	Annona squamosa	sitaphalamu	Annonaceae	10	Tree
8	Artabotrys odoratissima	teega sampenga	Annonaceae	2	Tree
9	Polyalthia longifolia	nara mamidi	Annonaceae	20	Tree
10	Allamanda cathartica	golden trumpet	Apocyanaceae	2	Creeper
11	Nerium oderum	ganneru	Apocyanaceae	5	Shrub
12	Plumeria alba	temple tree	Apocyanaceae	2	Tree
13	Plumeria rubra	deva kanchanam	Apocyanaceae	1	Tree
14	Caladium	elephant ear	Araceae	3	Herb
15	Epipremnum aureum	Money plant	Araceae	6	Creeper
16	Phoenix dactylifera	eetha	Arecaceae	7	Tree
17	Roystonia regia	bottle palm	Arecaceae	10	Shrub

18	Polianthes tuberosa(Agave amica)	rain lilly	Asparagaceae	6	Shrub
19	Spathodea campanulta		Bignoniaceae	5	Tree
20	Tecoma stans	bangaru gantalu	Bignoniaceae	12	Tree
21	Tamarindus indica	chinta	Caesalpinaceae	10	Tree
22	Caesalpina pulcherrima	chittikesari	Caesalpinaceae	8	Tree
23	Peltophorum pterocarpum	konda chita	Caesalpinaceae	13	Tree
24	Cassia montana	konda tangedu	Caesalpinaceae	1	Shrub
25	Bauhenia purpurea	devakanchanam	Caesalpinaceae	5	Tree
26	Caesalpina bonduc	gachha poda	Caesalpinaceae	3	Tree
27	Leucaena leucocephala	subabul	Caesalpinaceae	22	Tree
28	Cassia fistula	rela	Caesalpinaceae	2	Shrub
29	Canna indica	metta tamara	Cannaceae	5	Herb
30	Carica papaya	boppai	Caricaceae	2	Tree
31	Casuarina equiseta	sarugudu	Casuarinaceae	6	Tree
32	Terminalia catappa	badam	Combretaceae	10	Tree
33	Kalanchoe brasiiensis	Bryophyllum	Crassulaceae	6	Herb
34	Kalanchoe daigremontiana	Bryophyllum	Crassulaceae	5	Herb
35	Momordica charntia	kakara	Cucurbitacae	5	Creeper

36	Luffa acutangula	beera	Cucurbitacae	3	Creeper
37	Coccinia cordifolia	donda	Cucurbitacae	3	Creeper
38	Cycas bedomi	peritha	Cycadaceae	4	Tree
39	Phillanthus emblica	usiri	Euphoriaceae	6	Tree
40	Acalypha indica	muripinda	Euphoriaceae	13	Shrub
41	Euphorbia pulcherrima	euphorbia	Euphoriaceae	14	Shrub
42	Jatropha curcus	adavi amudam	Euphoriaceae	4	Shrub
43	Clitoria ternata	shankapushpi	Fabaceae	5	Creeper
44	Dalbergia sissoo	jittegi	Fabaceae	24	Tree
45	Pongamia pinnata	kanuga	Fabaceae	16	Tree
46	Gliriceridia sepium	eruvaka	Fabaceae	10	Tree
47	Pterocarpus santalinus	erra chandanam	Fabaceae	1	Tree
48	Quercus suber	silver oak	Fagaceae		Tree
49	Aloe barbedens	kalabanda	Liliaceae	4	Herb
50	Scilla indica	scilla	Liliaceae	2	Herb
51	Tradescantia sps	rheodiscolar	Liliaceae	4	Herb
52	Torenia fournieri	bluewings	Linderniaceae	1	Herb
53	Malvaviscus arboreus	mirapa mandara	Malvaceae	3	Shrub
54	Hibiscus rosa sinensis	mandara	Malvaceae	10	Shrub

55	Kavalama urens	eera poliki	Malvaceae (Sterculiaceae)	1	Shrub
56	Azadirichta indica	vepa	Meliaceae	25	Tree
57	Tinospora cordifolia	tippa teega	Menispermidaceae	10	Creeper
58	Mimosa pudica	atti patri	Mimosaceae	15	Herb
59	Albizia lebbek	dirishana	Mimosaceae	11	Tree
60	Albizia procera	tella chinduga	Mimosaceae	16	Tree
61	Prosopis juliflora	sarkar tumma	Mimosaceae	10	Tree
62	Acacia nilotica	nalla tumma	Mimosaceae	19	Shrub
63	Pithecellobium dulce	seema chinta	Mimosaceae	4	Tree
64	Parkia biglandulosa	tennis ball tree	Mimosaceae	1	Tree
65	Artocarpus integrifolia	panasa	Moraceae	1	Tree
66	Ficus carica	anjeer	Moraceae	1	Tree
67	Ficus glomerata	medi	Moraceae	5	Tree
68	Ficus religiosa	raavi	Moraceae	20	Tree
69	Moringa oleifera	munaga	Moringaceae	4	Tree
70	Musa paradisica	arati	Musaceae	4	Tree
71	Ravenila madagascarensis	traveller plant	Musaceae	1	
72	Psidium guajava	jama	Myrtaceae	6	Tree
73	Syzygium cumini	neredu	Myrtaceae	8	Tree

74	Bougainvillea spectabilis	kagitham pulu	Nyctaginaceae	8	Creeper
75	Nyctanthes arbor tristis	parijatham	Oleaceae	5	Creeper
76	Cymbopogon citratus	Lemon grass	Poaceae	6	Herb
77	Portulaca grandiflora		Portulacaceae	10	Herb
78	Portulaca oleracea		Portulacaceae	10	Herb
79	Punica granatum	danimma	Punicaceae	8	Tree
80	Zizyphus jujuba	regu	Rhamnaceae	4	Shrub
81	Rosa sinensis	rose	Rosaceae	10	Shrub
82	Ixora coccinea	Rama bhanam	Rubiaceae	12	Herb
83	Quisqualis sps	radha manoharam	Rubiaceae	6	Creeper
84	Neolamarckia cadamba	kadambam	Rubiaceae	1	Tree
85	Murraya koenigii	karivepaku	Rutaceae	14	Tree
86	Achras sapota	sapota	Sapotaceae	4	Tree
87	Cestrum nocturnum	night queen	Solanaceae	6	Creeper
88	Sterculia foetida	adavi badam	Sterculiaceae	9	Tree
89	Thuja occidentalis	thuja	Thujaceae	6	Shrub
90	Gmelina arborea	gummadi teku	Verbenaceae	12	Tree
91	Tectona grandis	teku	Verbenaceae	25	Tree
92	Cissus quadrangularis	nalleru	Vitaceae	8	Creeper

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

S.No.	Botanical Name	Trees/Vegetables / Herbs	Family
1	*Rauwolfia serpentina*	herb	Apocyanaceae
2	*Withania somnifera*	herb	Solanaceae
3	*Centella asiatica*	herb	Apiaceae
4	*Asclepia curassavica*	herb	Asclepidiacea
5	*Mitragyna parviflora*	Tree	Rubiaceae
6	*Dichrostachys cinerea*	tree	Mimosoideae
7	*Bombax ceiba*	Tree	Bombacaceae
8	*Terminalia chebula*	Tree	Combretaceae
9	*Terminalia bellerica*	Tree	Combretaceae
10	*Givotia moluccana*	Tree	Euphorbiaceae
11	*Anacardium occidentale*	Tree	Anacardiaceae
12	*Annona muricata*	Tree	Anacardiaceae
13	*Annona cherimola*	Tree	Annonaceae
14	*Artabotrys hexapetala*	Climber	Annonaceae
15	*Rosmarinus officinalus*	herb	Lamiaceae
16	*Utricularia gibba*	herb	Lentibulariaceae

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

Sl no	Name of Plant	Habit	Family	Number of plants
1	*Psidium guajava*	tree	Myrtaceae	14
2	*Emblica officinalis*	tree	Euphorbiaceae	10

3	*Citrus aurantium*	tree	Rutaceae	14
4	*Phyllanthus niruri*	herb	Euphorbiaceae	9
5	*Gliricidia sepium*	tree	fabaceae	16
6	*Ceiba pentandra*	tree	Bombacaceae	13
7	*Aegle marmelos*	tree	Rutaceae	2
8	*Aloe vera*	herb	Liliaceae	5
9	*Ocimum tenuiflorum*	herb	Lamiaceae	6
10	*Ixora coccinea*	herb	Rubiaceae	10
11	*Annona squamosa*	tree	Annonaceae	7
12	*Punica granatum*	tree	Punicaceae	11
13	*Ficus religiosa*	tree	Moraceae	13
14	*Azadirachta indica*	tree	Meliaceae	18
15	*Cymbopogon citratus*	herb	Poaceae	8
16	*Terminalia arjuna*	tree	Combretaceae	18
17	*Tabebuia aurea*	tree	Bignoniaceae	12
18	*Achras sapota*	tree	Sapotaceae	10
19	*Mangifera indica*	tree	Anacardiaceae	4
20	*Gmelina arborea*	tree	Verbenaceae	4

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

Ans: Yes, Earlier the Scientific Names on the Name plates were displayed. But from June 2021 QR codes were assigned to the plants present in the campus

Principal -Dr.E.Laxminarayana

Inaugural programme of tagging the QR Code for plants of our college. on 01-07-2021


REDMI NOTE 9
AI QUAD CAMERA


Dr. VEMULA SURESH

మొక్కలకు క్యూఆర్ కోడ్

మొక్కలకు క్యూఆర్ కోడ్ పర్యాటు చేస్తున్న దృశ్యం

సుభాష్‌నగర్(నిజామాబాద్‌అర్బన్): నగరంలోని గిరిరాజ్ ప్రభుత్వ కళాశాల వృక్షశాస్త్ర విభాగం ఆధ్వర్యంలో మొక్కల సర్వే నిర్వహించి, వాటికి క్యూఆర్ కోడ్‌ను కేటాయించే విధానాన్ని ప్రిన్సిపాల్ డాక్టర్ లక్ష్మీనారాయణ గురువారం ప్రారంభించారు. కళాశాలలోని వివిధ మొక్కలకు సంబంధించిన శాస్త్రీయనామం, సాధారణ నామం, కుటుంబం, ఆవాసం, వాటి ఉపయోగాలు, తదితర అంశాలు క్యూఆర్ కోడ్ స్కానింగ్ చేయడం ద్వారా తెలుసుకోవచ్చని ప్రిన్సిపాల్ తెలిపారు. క్యూఆర్ కోడ్ వల్ల మొక్కల వివరాలను తెలుసుకోవచ్చని, వాటి ఉపయోగాలపై అవగాహన పొందవచ్చన్నారు. మొక్కలను కాపాడుకోవాలని, వాటిపై ఆసక్తి పెర్చుకి, పర్యావరణ అభివృద్ధికి తోడ్పడవచ్చని తెలిపారు. కళాశాల ఆవరణలో 350 వరకు మొక్కలు ఉన్నాయని, వృక్షాలు గుల్మాలు, పొదలుగా గుర్తించి వాటి వివరాలు పొందుపర్చామని వృక్షశాస్త్ర విభాగాధిపతి డాక్టర్ పి లత పేర్కొన్నారు. కార్యక్రమంలో సైన్స్ ప్రిన్సిపాల్ అక్బర్ రఫీ, వీణాప్రసాద్, జయ ప్రసాద్, ఆంజేష్, అధ్యాపకులు దీపక్ పర్మార్, రవిరాజ్, గోపాల్, స్వామి, వెంకటేశ్వర్లు,తదితరులు పాల్గొన్నారు.

సాక్షి Fri, 02 July 2021
https://epaper.sakshi.com/c/61527903

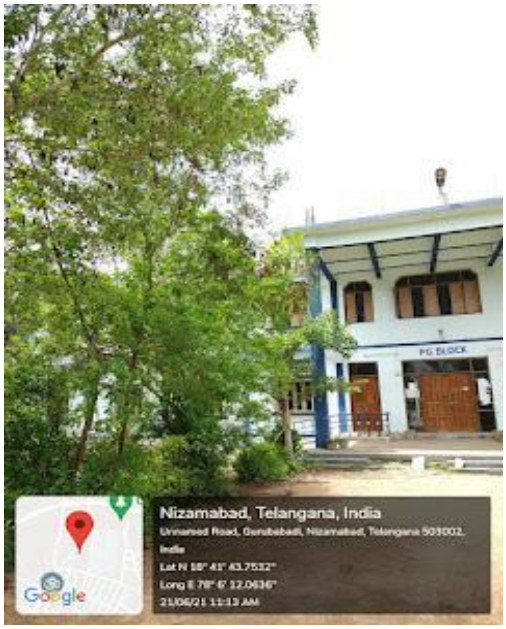

GIRRAJ GOVERNMENT COLLEGE (A),
NIZAMABAD, TS.
Terminalia catappa L.


GIRRAJ GOVERNMENT COLLEGE (A),
NIZAMABAD, TS.
Syzygium cumini Skeels


GIRRAJ GOVERNMENT COLLEGE (A),
NIZAMABAD, TS.
Psidium guajava L.


Nizamabad, Telangana, India


Nizamabad, Telangana, India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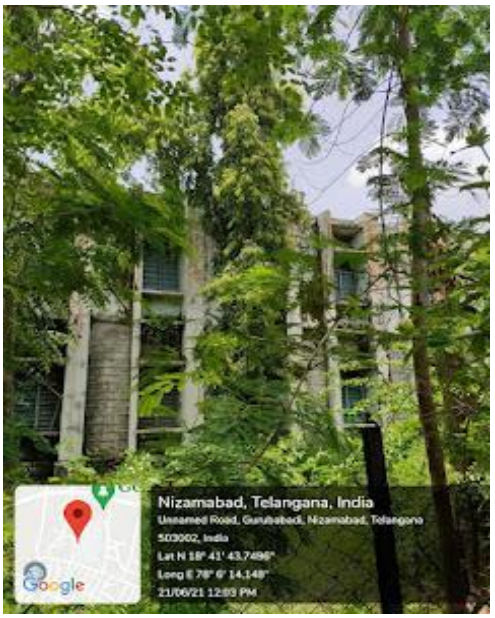
Nizamabad, Telangana, India
Unnamed Road, Gunibabadi, Nizamabad, Telangana 503002, India
Lat N 18° 41' 43.7532"
Long E 78° 6' 12.0636"
21/06/21 11:13 AM


Nizamabad, Telangana, India
Unnamed Road, Gunibabadi, Nizamabad, Telangana 503002, India
Lat N 18° 41' 43.7496"
Long E 78° 6' 14.148"
21/06/21 12:03 PM


GIRRAJ GOVERNMENT COLLEGE (A),
NIZAMABAD, T.S.
Pongamia pinnata Pierre

7. Are there any plantations on your campus? If yes, specify the area and type of plantation.

Ans : Yes. Plantation around campus has been done at College entrance area, in front of Department of Botany, Some plants in Shade net area

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?

No particular medicinal garden in the college, but many Medicinal plants are growing in the college premises

10. What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season)

No particular Vegetable garden in the college, but some vegetable plants are growing in the college premises

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

No

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

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?

Not using

15. Are you doing organic farming in your college? How?

Yes

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

Yes. The manure was used for fertilising plants.

17. What do you doing with the vegetables harvested? Do you have any student market?

No

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

Plant Species recorded in the college campus-92

Sl. No	Botanical Name	vernacular / common name	Family	No.of Species	Herb/ Shrub /Trees
1	***Crossandrum infundibuliformis***	kanakambaram	Acanthacae	5	Shrub
2	***Dracaena angustifolia***	Dracaena	Agavaceae	10	Herb
3	***Zephyranthes atamasca***	rain lilly (White colour)	Amarillidaceae	6	Herb
4	***Zephyranthes citria***	rain lilly (Yellow colour)	Amarillidaceae	5	Herb
5	***Mangifera indica***	mamidi	Anacardiaceae	4	Tree
6	***Annona reticulata***	ramaphalamu	Annonaceae	3	Tree
7	***Annona squamosa***	sitaphalamu	Annonaceae	10	Tree
8	***Artabotrys odoratissima***	teega sampenga	Annonaceae	2	Tree
9	***Polyalthia longifolia***	nara mamidi	Annonaceae	20	Tree
10	***Allamanda cathartica***	golden trumpet	Apocyanaceae	2	Creeper
11	***Nerium oderum***	ganneru	Apocyanaceae	5	Shrub
12	***Plumeria alba***	temple tree	Apocyanaceae	2	Tree
13	***Plumeria rubra***	deva kanchanam	Apocyanaceae	1	Tree
14	***Caladium***	elephant ear	Araceae	3	Herb

15	***Epipremnum aureum***	Money plant	Araceae	6	Creeper
16	***Phoenix dactylifera***	eetha	Arecaceae	7	Tree
17	***Roystonia regia***	bottle palm	Arecaceae	10	Shrub
18	***Polianthes tuberosa(Agave amica)***	rain lilly	Asparagaceae	6	Shrub
19	***Spathodea campanulta***		Bignoniaceae	5	Tree
20	***Tecoma stans***	bangaru gantalu	Bignoniaceae	12	Tree
21	***Tamarindus indica***	chinta	Caesalpinaceae	10	Tree
22	***Caesalpina pulcherrima***	chittikesari	Caesalpinaceae	8	Tree
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27	***Leucaena leucocephala***	subabul	Caesalpinaceae	22	Tree
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37	***Coccinia cordifolia***	donda	Cucurbitacae	3	Creeper
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39	***Phillanthus emblica***	usiri	Euphoriaceae	6	Tree
40	***Acalypha indica***	muripinda	Euphoriaceae	13	Shrub
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46	***Gliriceridia sepium***	eruvaka	Fabaceae	10	Tree
47	***Pterocarpus santalinus***	erra chandanam	Fabaceae	1	Tree
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49	***Aloe barbedens***	kalabanda	Liliaceae	4	Herb
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79	***Punica granatum***	danimma	Punicaceae	8	Tree
80	***Zizyphus jujuba***	regu	Rhamnaceae	4	Shrub
81	***Rosa sinensis***	rose	Rosaceae	10	Shrub
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88	***Sterculia foetida***	adavi badam	Sterculiaceae	9	Tree
89	***Thuja occidentalis***	thuja	Thujaceae	6	Shrub
90	***Gmelina arborea***	gummadi teku	Verbenaceae	12	Tree
91	***Tectona grandis***	teku	Verbenaceae	25	Tree
92	***Cissus quadrangularis***	nalleru	Vitaceae	8	Creeper

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

Medicinal plants in the college campus

Sl.No	**Botanical Name**	**vernacular / common name**	**Family**	**No.of Species**	**Herb/ Shrub /Trees**
1	Dracaena angustifolia	Dracaena	Agavaceae	10	Herb
2	Annona reticulata	ramaphalamu	Annonaceae	3	Tree
3	Polyalthia longifolia	nara mamidi	Annonaceae	20	Tree
4	Phoenix dactylifera	eetha	Arecaceae	7	Tree
5	Tamarindus indica	chinta	Caesalpinaceae	10	Tree
6	Cassia montana	konda tangedu	Caesalpinaceae	1	Shrub
7	Casuarina equiseta	sarugudu	Casuarinaceae	6	Tree
8	Terminalia catappa	badam	Combretaceae	10	Tree
9	Kalanchoe brasiiensis	Bryophyllum	Crassulaceae	6	Herb
10	Phillanthus emblica	usiri	Euphoriaceae	6	Tree

11	Euphorbia pulcherrima	euphorbia	Euphoriaceae	14	Shrub
12	Clitoria ternata	shankapushpi	Fabaceae	5	Creeper
13	Pongamia pinnata	kanuga	Fabaceae	16	Tree
14	Aloe barbedens	kalabanda	Liliaceae	4	Herb
15	Scilla indica	scilla	Liliaceae	2	Herb
16	Torenia fournieri	bluewings	Linderniaceae	1	Herb
17	Azadirichta indica	vepa	Meliaceae	25	Tree
18	Tinospora cordifolia	tippa teega	Menispermidaceae	10	Creeper
19	Mimosa pudica	atti patri	Mimosaceae	15	Herb
20	Pithecellobium dulce	seema chinta	Mimosaceae	4	Tree
21	Artocarpus integrifolia	panasa	Moraceae	1	Tree
22	Ficus glomerata	medi	Moraceae	5	Tree
23	Moringa oleifera	munaga	Moringaceae	4	Tree
24	Syzygium cumini	neredu	Myrtaceae	8	Tree
25	Cymbopogon citratus	Lemon grass	Poaceae	6	Herb
26	Punica granatum	danimma	Punicaceae	8	Tree
27	Murraya koenigii	karivepaku	Rutaceae	14	Tree
28	Achras sapota	sapota	Sapotaceae	4	Tree
29	Cestrum nocturnum	night queen	Solanaceae	6	Creeper
30	Cissus quadrangularis	nalleru	Vitaceae	8	Creeper

20. Any threatened plant species planted/conserved?

No

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

No

22. Is there any arboretum in your college? If yes, details of the trees planted.

No

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

Sl.No.	Botanical Name	vernacular / common name	Family	No.of Fruit yielding plants
1	*Mangifera indica*	mamidi	Anacardiaceae	4
2	*Annona reticulata*	ramaphalamu	Annonaceae	2
3	*Annona squamosa*	sitaphalamu	Annonaceae	11
4	*Phoenix dactylifera*	eetha	Arecaceae	3
5	*Carica papaya*	boppai	Caricaceae	2
6	*Tamarindus indica*	chinta	Caesalpinaceae	10
7	*Punica granatum*	danimma	Punicaceae	8
8	*Artocarpus integrifolia*	panasa	Moraceae	1
9	*Musa paradisica*	arati	Musaceae	3
10	*Achras sapota*	sapota	Sapotaceae	4

11	*Psidium guajava*	jama	Myrtaceae	6
12	*Phyllanthus emblica*	usiri	Euphoriaceae	3
13	*Zizyphus jujuba*	regu	Rhamnaceae	4
14	*Ficus glomerata*	medi	Moraceae	8
15	*Terminalia catappa*	badam	Combretaceae	15
16	*Syzygium cumini*	neredu	Myrtaceae	8
17	*Pithecellobium dulce*	seema chinta	Mimosaceae	4
18	*Carissa carandas*	vaakudu	Apocyanaceae	2

24. Are 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?

Ans: Dry deciduous type vegetation.

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

Routine Green Practices

Every year college celebrates World Environment Day, World Water Day and Ozone Day in the campus. The main focus of these programems was to provide awareness to the students about the importance of the environment, its conservation and sustainable use of environmental resources. The programmes

are conducted through seminars, poster presentation, quiz competition debates etc.

S.No.	Name of the Programme	Date	Resource Person	Organised by
	Natioal Seminar on "Biodiversity Conservation and Role of Student Youth"	**21st & 22 nd December, 2015**	**Dr. M R G Reddy, IFS Addl. PCCF, MOEF & CC Regional office Chennai** **Dr. VenkataRamana, Asst. Prof, Nizams College, Hyd** **Dr. Srinivasulu Asst. Prof. of Zoology OUHYD** **Dr. K. Joseph, Head Scientist, Regional Rice and Sugarcane Research Station, Rudrur, Nizamabad**	Dept.of Botany
	National Seminar on Ïmportance of Ethnomedicinal Validation of Regional Flora and Fauna for Value Added Products on 29.12.2017		**Dr. B. Dinesh Kumar, Deputy Director, HOD Drugs Division, NIN,Hyderabad,Telangana** **T. Pullaiah, Dept of Botany, Sri Krishnadevaraya University, Ananthapur,Andhra Pradesh** **Dr. N. Harishankar Scientist NCLAS, NIN Hyderabad,Telangana** **Dr. M.M.V Baig Nanded,Maharastra** **Dr. M. Aruna Telangana University,Nizamabad**	Dept.of Botany

			,Telangana Dr. Ch. Sambashivarao Principal Scientist RSRRS Rudrur Nizamabad, Telangana	
	International Conference on "Plants and Environment "	08th February 2021	Guest of Honour : Prof Naseem, Dean, Faculty of Science & Computer Science & Registrar ,Telangana University Resource Persons: 1.Dr.Maqbool Ahmed Head,Dept.of Botany,School of Sciences,Maulana Azad National Urdu University,Gachibowli Hyderabad 2.Dr.Shyam Kumar Bhandari, USA, 3. Dr.Chandrakantha Mahendranathan Eastern University,Sri Lanka Post-harvest losses of fruits and vegetables in developing countries 4.Prof Abdullah Mohammad Shohael, Ph.D Dept.of Biotechnology & Genetic	organized by Dept.of Botany Girraj Government College(A), Nizamabad in Collaboration with Council for Green Revolution, Hyderabad & Dept.of Botany ,Telangana University,Nizamabad

			Engineering Jahanirnagar University, Bangladesh **5.Prof.Anjana Singh** **Tribhuvan University, Nepal** **6.Dr.Madhusudhan Reddy** **Dept.of Botany** **Yogi Vemana University, Kadapa,A.P** **7.Dr.N.Amaresen** **Asst. Professor** **C.G .Bhakta Institute technology** **Uka Tarsadia University** **Maliba campus, Bardoli** **Surat,Gujarat** **8.C.Umamaheshwar Reddy** **Environmental Scientist** **Council for Green Revolution, Hyderabad**	
	Techniques in Soil & Water testing	**19th 20th 21st,29th Sept.2019**	.Venkat Ravinder Dist. Director of Agriculture Officer,	Dept.of Botany

			Nizamabad V.Ravindher- **Agricultural Officer (Famer's training Unit)**,Nizamabad. **Deepthi Devera,** Agricultural Officer, Nizamabad. **Divya**, Agricultural Officer, NZB	
	Herbarium Techniques & Pollen Morphology	**28th Feb.2019**	**Dr.A.Vijaya Bhasker Reddy** Head Dept.of Botany ,Nizam College(A), Nizamabad.T.S **Dr.P.Ravi Raj** , Asst. Prof.of Botany, Girraj Government College(A) Nizamabad	Dept.of Botany
	Webinar workshop on Soil & Water testing Methods for Plant growth & Development	23rd March 2021	**T.Venkat Ravinder** Assistant Director of Agriculture Officer, Nizamabad **Deepthi Devera,** Agricultural Officer, Nizamabd.	Dept.of Botany
	Awareness Programme on **Organic Farming**	**17-08-2019**	**V. Ravinder**, Farmer training Centre (FTC) Agriculture Officer Nizamabad	Dept.of Botany
	Extension Lecture on **Biofertilizers and Organic Farming**	**04-3-2021**	**V. Ravinder**, Farmer training Centre (FTC)	Dept.of Botany

			Agriculture Officer Nizamabad	
	Webinar(Extension Lecture) on Biodiversity: Hotspots of India	**24-02-2021**	**Sri .Prasanna Harikrishna Asst.Prof.of Botany, Department of Botany SRR Government Arts &Science College, Karimnagar**	
	Awareness & Quiz Competition on Biodiversity on 22 nd May 2021,on the occasion of International Biodiversity Day Theme: we' re Part of the Solution # for Nature	**22 nd May 2021**		
	Webinar on Ecosystem Restoration on the Occasion of World Environment day	**05-06-2021**	**A.Uma Shankar Kumar Asst.Dean -IQAC KSRM College of Engineering National Youth and IG -NSS Awardee**	Dept.of Botany, Eco Club, Haritha Club & NSS
	District level Elocution competition on plastic pollution			Dept.of Chemistry
	Extension activity -making of clay Ganesha	**12/09/2018**	**Resource Person - Dr. B.Nagaraju, Rtd.Lecturer**	Dept.of Chemistry

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

Ans: Plantation Programme

Students are actively involved in Haritha haram plantation programme, NSS volunteers were watering the plants, protecting plants and made fencing to the plants

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

40%

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

AUDITING FOR CARBON FOOTPRINT

• Petrol used by two wheelers/day–229 L

• (Per person to and fro 40 Kms=1L) Fuel used by four wheelers (52 Persons) - 104 L

• (Per person to and fro 40 Kms=2L) Fuel for persons (total 2314 persons) travelling by common

• Transportation =184 L (4L x 50 persons)

Total fossil fuel use is 517 L / day

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

Cost of stakeholder transportation per month (Rs.36190x22 days)- Rs.796180

Water analysis-Results of water quality

Parameters	Bore Well water	Municipal Tap water	Standard value (BIS)
Dissolved Oxygen (mg/l)	✓		6-8
Acidity (mg/l)	✓		200
Alkalinity (mg/l)	✓		200
Chloride (mg/l)	✓		250
Hardness (Total)	✓		200
Conductivity (µs)	✓		
Ph.	✓		6.5-8.5
Total Dissolved Solids (ppm)	✓		500
Salinity (ppt)	✓		
Total coliform	✓		0
Fecal coliform	✓		0

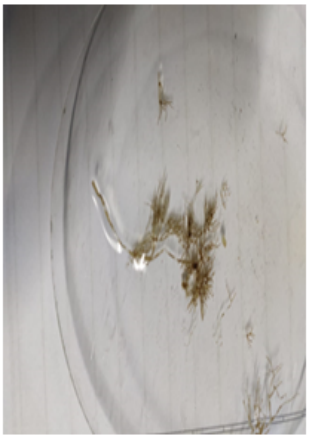
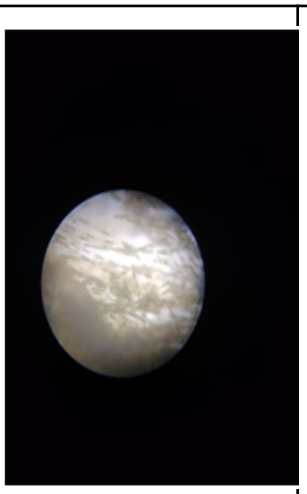
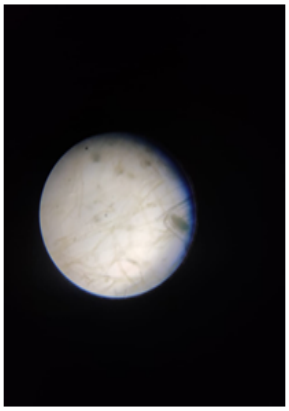
Water analysis –various samples collected from college premises

S.No.	DO Mg/l	Alkalinity Mg/l	Chlorides Mg/l	Total Hardness	Conductivity µ/s	pH	TDS ppm	Temp 0C
1	4	36	213	146	562.8	7	105	28
2	5	40	284	124	410.6	7	103	28
3	5	62	305.3	118	450.6	7	103	29

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

S.No	Phytoplanktons	Scientific Name and number	Methodology

1	Diatoms (Bacillariophyceae)		Microscopic
2	Dinoflagellates (Dinophyceae)		
3	Coccolithophores (Prymnesiophyceae)		
4	Green algae (Chlorophyceae)	Nitella Spirogyra Cladophora Draparnldiopsis Eudorina Hydrodictyon	Microscopic
5	Cyanobacteria (earlier Blue-green algae)		
6	Others (specify)	Lingbya	Microscopic
		Navucula	Microscopic

			
Nitella	Spirogyra	cladophora	Draparnldiopsis
			

Eudorina	Hydrodictyon	Lingbya	Navicula

Faunal Diversity of Girraj Government College (A) Nizamabad

S.No.	Scientific name	Common name	Type
1.	*Pheretimaposthuma*	Earth worm	Annelid
2.	*Diplacodestrivialis*	Dragon fly	Arthropod
3.	*Papiliolio medon*	Butter fly	Arthropod
4.	*Latrodectus hesperus*	Spider	Arthropod
5.	*Agonopterix arenella*	Moths	Arthropod
6.	*Lepisma* saccharinum	Silver fish	Arthropod
7.	*Oebaluspugnax*	Rice sting bug	Arthropod
8.	*Coptotermesformosanus (Formosan subterranean)*	Termites	Arthropod
9.	*Episyrphus balteatus*	Orange striped *Hoverflies*	Arthropod
10.	*Anopheles*	Mosquitos	Arthropod
11.	*JulusabbreviatusMikan*	Julus	Arthropod
12.	*JulusacriculusKarsch*	Julus	Arthropod
13.	*Apismellifera*	Honey bee	Arthropod
14.	*Harpaphehaydeniana*	Yellow spotted millipede	Arthropod
15.	*Solenopsisgeminata*	Fire ant	Arthropod
16.	*Acantherus Scudder*	Grass hopper	Arthropod
17.	*Scorpio maurus*	Scorpion	Arthropod
18.	*Praying mantises*	Praying mantis	Arthropod
19.	*OnthophagusgazellaFabricius*	Dung beetles	Arthropod
20.	*Daphnis nerii*	Army green moth	Arthropod
21.	*Vespula vulgaris*	wasps	Arthropod

22.	*Grylluspennsylvanicus*	Cricket	Arthropod
23.	*Coccinellamagnifica*	Lady beetles	Arthropod
24.	*Lampyridae*	Fire fly	Arthropod
25.	*Pilaglobosa*	Snail	Molluscan
26.	*Bufobufo*	True toad	Amphibia
27.	*Ranatigreana*	Goduru frog	Amphibia
28.	*Hylaarborea*	Tree frog	Amphibia
29.	*Rachophorus*	Flying frog	Amphibia
30.	*Duttaphrynusmelanostictus*	Asian common toad	Amphibia
31.	*Hemidactylusfrenatus*	Lizards (House)	Reptiles
32.	*Calotesversicolor*	Garden lizard	Reptiles
33.	*chamaeleon*	oosaravelli	Reptiles
34.	*Ptyas mucosa*	Rat Snakes	Reptiles
35.	*Najanaja*	Indian cobra	Reptiles
36.	*Viper russlii*	Raktapinjara	Reptiles
37.	*Bangarus*	krait	Reptiles
38.	*Varanusbengalensis*	Monitor lizard	Reptiles
39.	*Enhydrisenhydris*	Water snake	Reptiles
40.	*Dendrophis*	Tree snake	Reptiles
41.	*Testudo*	Land tortoise	Reptiles
42.	*Bubo bubo*	Owl	Bird
43.	*Nectariniaminime*	Sun bird	Bird
44.	*Bubulcus ibis*	Cattle egret-Heron	Bird
45.	*Ardea alba*	White crane	Bird
46.	*Columba liviadomestica*	Pigeon	Bird
47.	*Passer domesticus*	Sparrow	Bird
48.	*Psittacula krameri*	Parrots	Bird
49.	*Eudynamys scolopaceus*	Indian black koel	Bird
50.	*Acridotherestristis*	Myna	Bird
51.	Centropussinensis	Greater coucal	Bird
52.	*Corvussplendens*	crow	Bird
53.	*Clangahastata*	Eagle	Bird
54.	*Dendrocopus mahrattensis*	Wood pecker	Bird
55.	Coracias benghalensis	Indian roller	Bird
56.	Alcedoatthis	King fisher	Bird
57.	*Bubalus bubalis*	Buffalo	Mammal
58.	*Bostaurus*	cow	Mammal
59.	*Canis lupus familiaris*	Dog	Mammal
60.	*Funambulus palmarum (Sciuridae)*	Squirrel	Mammal
61.	*Rattus. rattus(black)*	Rats	Mammal
62.	*Rattus. norvegicus(brown)*	Rats	Mammal
63.	*Bandicataindica*	Rats	Mammal
64.	*Suncsusmurinus*	shrew	Mammal
65.	*Rhesus macaque (Cercopithecidae)*	Monkey	Mammal
66.	*Felis domesiticus*	Cats	Mammal
67.	Herpestes	Mongoose	Mammal
68.	*Suss crofa*scrofa	pig	Mammal


Heron - *Ardea alba modesta*


yellow spoted *millipede* -
Harpaphe haydeniana


OWL

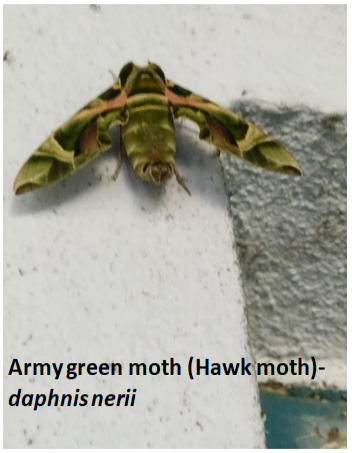

Pheasant crow


Pigeon: *Columba livia*


Garden lizard


Rhesus macaca


Moth
Shot on Y83 Pro
vivo dual camera


Army green moth (Hawk moth)-
daphnis nerii


Butterfly- *Papilio liomedon*


Squirrel –*Funambulus palmarum*


Grasshopper –*Poekilocrus pictus*

Measurements of Noise level in and around the college

S.No	place (S)	Measurements (Duration in seconds)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
1	Library	60	30	60	45
2	Canteen	60	40	90	65
3	Play ground	60	40	80	60
4	Auditorium	60	45	100	72.5
5	Chemistry Block	60	32	65	48.5
6	Physics Block	60	30	62	46
7	Botany Block	60	35	66	60.5
8	Zoology Block	60	32	64	48
9	Economics Block	60	33	60	46.5
10	PG Block	60	38	68	53
11	RUSA Block	60	32	70	51

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

GRADING FOR ENVIRONMENTAL AUDIT REPORT

S.NO	COMPONENTS FOR ASSESSMENT	MARKS		GRADES
1	Energy audit	**20**	**15**	**A+ : 91-100** **A : 81-90** **B+ : 71-80** **B : 61-70** **C : 51 - 60**
2	Waste audit	**15**	**12**	
3	Water audit	**15**	**12**	
4	Landscape or Environment audit	**15**	**12**	
5	Carbon footprint & Oxygen emission audit	**15**	**12**	
6	Green activities (conduction of seminars/conferences/workshops/student competitions/awareness programmes/observation of environmental related days etc.	**10**	**10**	
7	Student clubs (Environmental club/Green club/Nature club/Biodiversity club/ ECO Club/Friends and Fauna Club/Science club etc.) activity annual report	**10**	**10**	
	Total	**100**	**83**	

SUGGESTIONS AND RECOMMENDATIONS

Water Management

The water sources are safe in terms of contamination.

The wells can be recharged with rainwater from rooftops of buildings. The area of the rooftop is 33108.68m^2. Approximately 102532 m^3 of water can be harvested from the roof area of the building.

Rainwater for laboratory purposes – Construction of a 10000L rainwater harvesting tank can satisfy the needs of the laboratory. The rain water can also be used as a source for drinking water.

Energy management

The energy audit recommends to avoid the use of more energy consuming electrical appliances and to replace with more environment friendly and energy efficient appliances (for example five stars rated Air conditioner) in the college. The potential of renewable energy sources have to be explored. As the college has a very large roof area for installing solar panels so that it can be effectively used for generating power. The college has started steps in installing the solar panels for the office.

It is recommended to install the following solar powered appliances in the campus;

Solar powered street lights and LED display board Green Campus

In order to increase the carbon credit and greenery of the campus, it is recommended to plant more indigenous and evergreen / fruit trees inside the campus.

Waste Management

Try to avoid the use of plastic in the campus, and to encourage the use of biodegradable materials as alternatives. Try to achieve the goal of a plastic free campus. Leaf litter from the campus can be effectively used for aerobic/ vermicomposting, so that the composted material can also be used as good manure. Recycle the paper waste instead of incinerating or burning.

THE END