

GOVERNMENT DEGREE COLLEGE JAMMIKUNTA

Veenavanka Road, Jammikunta
Karimnagar Dist. -505122



GREEN AUDIT REPORT

AUDIT TEAM

1	Sri. P. Premchand	Chairman & Principal (FAC),
2	Sri. A. Srinivas Reddy	Vice Chairman, IQAC Coordinator
3	Dr. T. Sreelatha	Green Audit Coordinator
4	Dr. B. Suvarna	Waste Management
5	Sri. M. Rama mohan Rao	
6	V. Swaroopa Rani	Faunal Diversity
7	Sri. Aways Mohiuddin	ENERGY AUDIT
8	Sri. B.Mahendar Rao	Carbon Foot Print
9	Sri. R. Eashwaraiah	
10	P. GOVARDHAN REDDY, Agricultural Officer, Jammikunta	Member
11	V. GANGADHAR, Principal, Govt. Junior College, Jammikunta	Member

College Profile:

Name of the College: GOVT. DEGREE COLLEGE JAMMIKUNTA

Address: Veenavanka Road, Jammikunta

Contact Info: 9866308675

Campus Area: 20 ACRES

Built-up Area: 8482 SQ. MTS

Is the building has ventilators for natural air flow in all rooms: Yes

The Student and faculty strength of the college:

Strength	Male	Female	Total
No of students	390	413	803
No of Teaching staff	24	5	19
No of Non-Teaching staff	6	0	6

Physical Structure

The available land of the college: 20 ACRES

The built-up area of the college: 8482 SQ. MTS

No. of Class Rooms	25
No. of Laboratories	12
No. of Conference halls	02
Library Halls	01
Auditorium	0
Canteen	0
Any other(please specify)(Toilets)	10

Objectives:	<ul style="list-style-type: none"> • Environmental risk assessment • Waste minimization and environmental pollution control plans. • To document the the floral and faunal diversity of the college • To estimate the energy requirements of the college • The optimal utilization of energy, water and other natural resources.
Prepared by:	Dr. T. Sreelatha
Approved by:	Sri. P. Premchand
Remarks:	
SUPPORT MATERIAL	
Questionnaire, Checklist for Environmental Audit document, Photo evidences	

Background: The history of an Institution / Organization, including information on the setting and construction plan, environmental practices, known environmental issues from the site and neighbours, previous environmental damage/spill at the site and monitoring records. Any changes made or occurred up to the time of the last audit and future plans for the development. The natural resources used as input, processing of materials and all finished products (energy, water, raw material use) and wastes including hazardous and toxic wastes.

General Objectives:

- Environmental risk assessment including compliance to regulations, soil, Water, solid and E-wastes, emissions, hazardous products,
- To document floral and faunal diversity of the college,
- To estimate the energy requirements of the college .
- Waste minimization and environmental pollution control plans.
- The optimal utilization of energy, water and other natural resources.
- Recycling programs and product life cycle considerations.

Protocols used for Environmental Audit

Internal Audit Team Structure: (7+2=9): It comprises Principal as Chairman, IQAC coordinator as Vice-Chairman, Principal of the neighboring college as special invitee, one coordinator from faculty of Botany/Zoology/ Environmental Science and three other members from any faculty interested in environment related activities. College can include two extra invitee members from the Forest Department / Pollution control board / Health Department/ etc.

Questionnaire: this is used for acquiring basic information related to different categories to be covered in an institution.

Check List: This is used for providing a detailed listing of all issues to be covered in an institution.

Photographs: A picture speaks 1000 words. Use photographs to support findings and to highlight good practices with geo-tagging.

Comprehensive Methods: The detailed methodology is required for environmental audit and it must be conducted using comprehensive protocols and fixed procedures to ensure collection and documentation of the required data and verification of facts based on the information provided.

Relevant Measures and Standards: The standard measures could be adjusted to be relevant to the organization or activity being audited.

Written Reports: Reports should contain factual observations, reasoning and the documentation of the processes. The clarity and accuracy should be maintained while presenting the findings with the support of valid and documented evidence.

Evidence verification: The concept of evidence and verification of environmental deficiencies is one of the key elements in an environmental audit. Initially the Internal audit team must verify all procedures, collected data and information through direct field inspection.

Certification and Grading: The External audit team will assess and evaluate the internal audit report and after thorough verification certificate along with grade will be issued.

PROCEDURE		
Procedure	Description	Responsibility
Annual plan	The environmental audit report is prepared by College Authorities each year and it ensures that the entire environmental management system is examined, must specify when the audit was carried out and those responsible for carrying it out.	Internal Environmental audit team/ coordinator
Preparation	<p>The typical questionnaire and checklists are developed for the area to be audited before the actual individual audits are carried out. It is done using established procedures, objectives and action plans. They can be used to measure results in each area.</p> <p>The staff and in charges of the area to be audited should be informed well in advance about when the audit would be done and what it covers.</p>	Internal audit team
Internal Audit	Based on the questionnaire and checklists, the audit is carried out in the form of interviews / physical visit about - and observations of the actual state of affairs. The Team suggests further changes and correction as and when required.	Internal audit team
Wrap-up meeting	An audit report is prepared which is examined together with the in-charges responsible for the each area; minor areas are taken care of immediately, while a conclusion for the audit as a whole is written down. Correction reports are examined and corrective action is agreed upon. The internal audit team and the College Management / Principal sign the reports made. Then the reports must be submitted to the CC Office at Hyderabad.	Internal audit team

Follow-up	When deadlines for corrective action are reached, the Coordinator responsible for the area audited is contacted and the environmental manager checks the corrective action carried out. If corrective action is effective, the case is closed. If not, a new report is prepared.	Coordinator
Reporting	A comprehensive joint report is prepared on the basis of all the internal environmental audits of the college. This report forms the basis for certification and grading by the external audit team and it holds the authority to review the entire report.	External Audit team/ Principal/ IQAC coordinator

AUDITING FOR WATER MANAGEMENT

1. List out uses of water in your college.

ANS:

1. Drinking
2. Cleaning
3. Toilets
4. Laboratories
5. Garden

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

ANS: Ground water

3. How many wells are there in your college?

ANS: There is 1 bore well.

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

ANS: One motor is being used.

5. What is the total horsepower of each motor?

ANS: 1 hp

6. What is the depth of well?

ANS: 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 4 overhead water tanks.

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

ANS: 4000 Liter capacity (4X1000) Liter

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

ANS: 4000 Liters

11. If there is water wastage, specify why.

ANS: Some quantity of water drains out due to cleaning of floor. How can the wastage be prevented / stopped?

ANS: Waste water is used for the garden.

12. 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 – to Garden

13. Where does wastewater come from?

ANS: Cleaning floor

14. Where does the waste water go?

ANS: To the garden.

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

ANS: The waste water is used for watering the garden. The waste water from labs enters the drainage.

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

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

17. 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.

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

ANS: No.

19. 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 minimize the wastage of water in the campus.
- e) Conducting **awareness programs** to students and staff on water conservation in the college.

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

ANS: Not Available

21. Bimonthly water charges paid to water connections if any

ANS: Nil.

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

ANS: 2 water coolers with 100 liter capacity each

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

ANS: 30 taps. Approximately 4000 Liter water is being used per day.

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

ANS: Nil

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

ANS: Total 20 toilet, urinals. The amount of water used per day is approximately 2000 Liters.

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

ANS: Nil

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

ANS: Total 4 water taps are there in the labs. Daily 500 liters of water used in the labs.

28. Total use of water in each hostel?

ANS: Nil

29. 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	2000
2	Labs	500
3	Floor cleaning	500
4	Gardening	1000
	Total	4000

30. Is there any water used for agricultural purposes?

ANS: No.

31. Does your college harvest rainwater?

ANS: Yes

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

ANS: There are 2 rain water harvesting units.

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

ANS: Nil.

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

ANS: Yes

35. Is there any waterless toilets?

ANS: No.

36. How many water fountains are there?

ANS: Nil

37. How many water fountains are leaky?

ANS: Nil

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

ANS: No.

39. How often is the garden watered?

ANS: Twice a week

40. Quantity of water used to watering Quantity of water used to watering the ground?

ANS: Nil

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

ANS: Nil. (There is no college bus)

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

ANS: Nil

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

ANS: 20 Acre land

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

ANS: Yes.

45. 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.

46. 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. . 94,512/- June-20 to May-21

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

Ans: Nil

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, However, it is suggested to install 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: Rs. 1,44,000 (towards electricity)

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

Ans: 20 installed. Of them, on average 7 CFL work for 6 hours a day, for 20 days, amounting 9.24 kwh/month.

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

Ans: 1.32 kwh/month

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

Ans: 10 installed. Of them, on average 7 LED work for 10 hours a day, for 28 days, amounting 21.56 kwh/month.

10. Energy used by each bulb per month? (kWh). Ans:3.08 kwh/month for each Bulb

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: 90 installed. Of them, on average 25 fans work for 4 hours a day, for 20 days, amounting 120 kwh/month.

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

Ans: 4.8 kWh/month for each fan

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

Ans: 3 installed. of them, on average one AC works for 2 hours a day, for 8 days, amounting 24 kwh/month.

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

Ans: 24 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: Nil

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

Ans: Nil

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

Ans: 130 installed. Of them, on average 50 PC work for 4 hours a day, for 20 days, amounting 400 kwh/month.

20. Energy used by each computer per month? (kWh).
Ans: 80kWh/month
21. How many photocopiers are installed by your college? Mention use(Hours used/day for how many days in a month).
Ans: 2 installed. Of them, on average one Photo copier works an hour for 10 days, amounting 20 kwh/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: 4 installed. Of them, on average 2 work for 2 hours a day, for 10 days, amounting 80 kwh/month.
23. Energy used by each cooling apparatus per month? (kWh) Mention use (Hours used/day for how many days in a month)
Ans: 40kwh/month by each set.
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: 10 installed. Of them, on average 7 LED work for 10 hours a day, for 28 days, amounting 21.56 kwh/month.
25. Energy used by each inverter per month? (kWh)

Ans: 18 kwh/month
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)
Ans: 8 equipments are installed in various labs. of them, on average 3 work for 2 hours a day, for 20 days, amounting 12 kwh/month.
27. Energy used by each equipment per month? (kWh)
Ans: 4 kwh/month

Chart Showing the average Consumption of Electric energy in a month

S N o	Item	Number of items installed	Average number of items kept in use	Wattage	Hours of usage per day	Average number of working days in a month	Monthly Energy Utility (kwh/month)
1	CFL	20	7	11	6	20	9.24
2	LED	10	7	11	10	28	21.56
3	Fan	90	25	60	4	20	120
4	AC	3	1	1500	2	8	24
5	PC	130	50	100	4	20	400
6	Photo copier	2	1	2000	1	10	20
7	Cooling Apparatus	4	2	2000	2	10	80
8	TV	1	1	100	2	15	3
9	Water Pumping Apparatus	2	1	2000	2	7	28
9	Laboratory Equipments	8	3	100	2	20	12
Total KWH per month							717.8

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?

Ans: Nil

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

Ans: Nil

32. No of TV in your college and hostels?

Ans: 1

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

Ans: One TV is installed which works on an average 2 hours a day for 15 days, amounting to 3kwh/month

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: Nil

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.

AUDITING FOR WASTE MANAGEMENT

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

Ans:

No. of Students	No. of Teachers	Non-teaching staff	Gents	Ladies	Total
803	29	06	420	418	838

2. Which of the following are available in your College?

- Give area occupied : Available
- Garden area : Available
- Garbage dump (number) : Not available
- Playground area : Available
- Laboratory : Available
- Kitchen : Not Available
- Canteen : Not Available
- Toilets (number) : Available
- Car/scooter shed area : Available
- Number of class rooms : 25
- Office rooms and others (specify) : 14

3. 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.

Ans:

Waste found disturbance it creates	disturbance it creates in a scale of (1-9)
Municipal dump yard	1
Garbage heap	1
Public convenience Sewer line	1
Stagnant water	1
Open drainage Industry – (Mention the type)	1
Bus / Railway station Market / shopping complex / public halls	8

WASTE

Does your college generate any waste? If so, what are they? How much quantity? Number or weight E-waste Hazardous waste (toxic)

Ans: Yes

Solid waste	1 kg
Dry leaves	2 kgs
Canteen waste	Nil
Liquid Waste	Nil
Glass	Nil
Unused equipment	Computers (25 No.s)
Medical waste if any	Nil
Napkins Others	¼ kg

1. Is there any waste treatment system in the college?

Ans: Yes. Waste water is used for gardening. Dry leaves and other organic waste matter is dumped in the Vermicomposting pit and also used as organic manure.

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

Ans: No treatment plant is available but waste water is used for gardening.

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

Ans: 1Kg

4. Why waste is a problem?

Ans: It pollutes natural resources.

5. Whether waste is polluting ground/surface water? How?

Ans: No

6. Whether waste is polluting the air of the college? How?

Ans: No

7. How is the waste generated in the college managed?

Methods 1 Composting 2 Recycling 3 Reusing 4 Others (specify)

Ans: Waste water is used for gardening. Dry leaves and other organic waste matter is dumped in the Vermicomposting pit and also used as organic manure.

8. 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)

Ans: 2

1 box for paper wastage

1 box for plastic wastage

7 Do you use recycled paper in College?

Ans: No

9. Is there any waste wealth program practiced in the college?

Ans: No

Approx. Bio degradable 4 Kgs

Non-Bio degradable 1/4kgs

Hazardous Nil

Others < 1 kg. 2 - 10 kg. > 10 kg. Nil

Approx. Bio degradable Non-Bio degradable Hazardous Others < 1 kg. 2 - 10 kg. > 10 kg.

Approx. Bio degradable Non-Bio degradable Hazardous Others < 1 kg. 2 - 10 kg. > 10 kg.

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

Ans: Yes. We spread the message by organizing NSS volleys and awareness programs extended in the community .

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

Ans : Yes. It can be achieved by taking the following measures

1. Recycling of paper waste
2. Banning plastic covers and bottles completely
3. Efficient usage of bio and organic wastage
4. Recycling of waste water
5. Disposing off the e waste immediately

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, Medicinal plants, Different type of plant family chambers & 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 practical's.

Approximate area in which Botanical Garden Located

Botanical garden area 1200 square yards in front of Botany and Zoology Departments

Species of Plants / Trees in the Botanical Garden approximately 318 (Botanical Garden 152 + College campus- 166)

2. Do students spend time in the garden?

Ans: Yes,

Students Participation in Establishment of Botanical Garden







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

Ans: Plant Species recorded in the college campus-318

Sl. No	Botanical Name	vernacular / common name	Family	No.of Species	Herb/ Shrub /Trees
1	<i>Crossandrum infundibuliformis</i>	kanakambaram	Acanthaceae	5	Shrub
2	<i>Dracaena angustifolia</i>	Dracaena	Agavaceae	10	Herb
3	<i>Zephyranthes atamasca</i>	rain lilly (White colour)	Amarillidaceae	10	Herb
4	<i>Zephyranthes citria</i>	rain lilly (Yellow colour)	Amarillidaceae	6	Herb

5	<i>Mangifera indica</i>	mamidi	Anacardiaceae	2	Tree
6	<i>Annona squamosa</i>	sitaphalamu	Annonaceae	5	Tree
7	<i>Polyalthia longifolia</i>	nara mamidi	Annonaceae	9	Tree
8	<i>Nerium oderum</i>	ganneru	Apocyanaceae	10	Shrub
9	<i>Epipremnum aureum</i>	Money plant	Araceae	6	Creeper
10	<i>Phoenix dactylifera</i>	eetha	Arecaceae	2	Tree
11	<i>Tecoma stans</i>	bangaru gantalu	Bignoniaceae	4	Tree
12	<i>Bauhenia purpurea</i>	devakanchanam	Caesalpinacea e	30	Tree
13	<i>Cassia auriculata</i>	Thangedu	Caesalpinacea e	1	Tree
14	<i>Leucaena leucocephala</i>	subabul	Caesalpinacea e	5	Tree
15	<i>Cassia fistula</i>	rela	Caesalpinacea e	1	Shrub
16	<i>Carica papaya</i>	boppai	Caricaceae	1	Tree
17	<i>Coccinia cordifolia</i>	donda	Cucurbitaceae	1	Creeper
18	<i>Phyllanthus emblica</i>	usiri	Euphorbiaceae	2	Tree
19	<i>Clitoria ternata</i>	shankapushpi	Fabaceae	1	Creeper
20	<i>Dalbergia sissoo</i>	jittegi	Fabaceae	4	Tree
21	<i>Pongamia pinnata</i>	kanuga	Fabaceae	12	Tree
23	<i>Aloe barbedens</i>	kalabanda	Liliaceae	4	Herb
24	<i>Tradescantia sps</i>	rheodiscolar	Liliaceae	4	Herb
25	<i>Malvaviscus arboreus</i>	mirapa mandara	Malvaceae	3	Shrub
26	<i>Hibiscus rosa sinensis</i>	mandara	Malvaceae	12	Shrub
27	<i>Azadirachta indica</i>	vepa	Meliaceae	25	Tree
28	<i>Tinospora cordifolia</i>	tippa teega	Menispermidae	6	Creeper
29	<i>Mimosa pudica</i>	atti patri	Mimosaceae	4	Herb

30	Albizia lebbek	dirishana	Mimosaceae	20	Tree
31	Psidium guajava	jama	Myrtaceae	2	Tree
32	Syzygium cumini	neredu	Myrtaceae	2	Tree
33	Bougainvillea spectabilis	kagitham pulu	Nyctaginaceae	5	Creeper
34	Zeya maize	Mokka jonna	Poaceae	6	Herb
35	Punica granatum	danimma	Punicaceae	8	Tree
36	Rosa sinensis	rose	Rosaceae	20	Shrub
37	Ixora coccinea	Rama bhanam	Rubiaceae	10	Herb
38	Murraya koenigii	karivepaku	Rutaceae	14	Tree
39	Tectona grandis	teku	Verbenaceae	10	Tree
40	Cissus quadrangularis	nalleru	Vitaceae	1	Creeper

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

S.No	Botanical Name	Trees/Vegetables / Herbs	Family
1	<i>Rauwolfia serpentina</i>	herb	Apocyanaceae
2	<i>Withania somnifera</i>	herb	Solanaceae
3	<i>Centella asiatica</i>	herb	Apiaceae
4	<i>Asclepia curassavica</i>	herb	Asclepidiaceae
5	<i>Mitragyna parviflora</i>	Tree	Rubiaceae
6	<i>Dichrostachys cinerea</i>	tree	Mimosoideae
7	<i>Bombax ceiba</i>	Tree	Bombacaceae
8	<i>Terminalia chebula</i>	Tree	Combretaceae
9	<i>Terminalia bellerica</i>	Tree	Combretaceae
10	<i>Givotia moluccana</i>	Tree	Euphorbiaceae
11	<i>Anacardium occidentale</i>	Tree	Anacardiaceae

12	<i>Annona muricata</i>	Tree	Anacardiaceae
13	<i>Annona cherimola</i>	Tree	Annonaceae
14	<i>Artabotrys hexapetala</i>	Climber	Annonaceae
15	<i>Rosmarinus officinalis</i>	herb	Lamiaceae
16	<i>Utricularia gibba</i>	herb	Lentibulariaceae

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

SI no	Name of Plant	Habit	Family	Number of plants
1	<i>Psidium guajava</i>	tree	Myrtaceae	05
2	<i>Embllica officinalis</i>	tree	Euphorbiaceae	05
3	<i>Citrus aurantium</i>	tree	Rutaceae	02
4	<i>Aloe vera</i>	herb	Liliaceae	5
5	<i>Ocimum tenuiflorum</i>	herb	Lamiaceae	05
6	<i>Ixora coccinea</i>	herb	Rubiaceae	05
7	<i>Annona squamosa</i>	tree	Annonaceae	7
8	<i>Punica granatum</i>	tree	Punicaceae	05
9	<i>Azadirachta indica</i>	tree	Meliaceae	15
10	<i>Mangifera indica</i>	tree	Anacardiaceae	02

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 –P. PREM CHAND

**Inaugural programme of tagging the QR Code for plants of our
College. on 05-07-2021**





7. Is there any plantations in your campus? If yes specify area and type of plantation.

Ans: Plantation around campus has been done in 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?

Ans: Yes, 100 square yards

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

Ans: Yes 200 square yards

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

Ans: Abelmoschus esculentus (Lady finger), Hibiscus sabdariffa(Gongura) ,Mentha virids(pudina) Corindrum sativum(kothi meera),Trigonella foenum- graecum(menthulu)

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

Ans: 1500 Ltrs per day

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

Ans: Dr. T. Sreelatha Assistance professor In charge of Department of Botany

13. Are you using any type of recycled water in your garden?

Ans: No

14. List the name and quantity of pesticides and fertilizers used in your gardens?

Ans: Not using

15. Whether you are doing organic farming in your college? How?

Ans: NO

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

Ans: Yes. Vermincomost with utilizing for some plants



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

Ans: No

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

Ans:

Plant Species recorded in the college campus-92

Sl. No	Botanical Name	vernacular / common name	Family	No.	Herb / Shrub
1	<i>Crossandrum infundibuliformis</i>	kanakambaram	Acanthaceae	5	Shrub
2	<i>Dracaena angustifolia</i>	Dracaena	Agavaceae	10	Herb
3	<i>Zephyranthes atamasca</i>	rain lilly (White)	Amarillidaceae	6	Herb
4	<i>Zephyranthes citria</i>	rain lilly (Yellow colour)	Amarillidaceae	5	Herb
5	<i>Mangifera indica</i>	mamidi	Anacardiaceae	4	Tree
6	<i>Annona reticulata</i>	ramaphalamu	Annonaceae	3	Tree
7	<i>Annona squamosa</i>	sitaphalamu	Annonaceae	10	Tree
8	<i>Artabotrys odoratissima</i>	teega sampenga	Annonaceae	2	Tree
9	<i>Polyalthia longifolia</i>	nara mamidi	Annonaceae	20	Tree

10	<i>Allamanda cathartica</i>	golden trumpet	Apocyanaceae	2	Creeper
11	<i>Nerium oderum</i>	ganneru	Apocyanaceae	5	Shrub
12	<i>Plumeria alba</i>	temple tree	Apocyanaceae	2	Tree
13	<i>Plumeria rubra</i>	deva kanchanam	Apocyanaceae	1	Tree
14	<i>Caladium</i>	elephant ear	Araceae	3	Herb
15	<i>Epipremnum aureum</i>	Money plant	Araceae	6	Creeper
16	<i>Phoenix dactylifera</i>	eetha	Arecaceae	7	Tree
17	<i>Roystonea regia</i>	bottle palm	Arecaceae	10	Shrub
18	<i>Polianthes Tuberosa (Agave amica)</i>	rain lilly	Asparagaceae	6	Shrub
19	<i>Spathodea campanulta</i>		Bignoniaceae	5	Tree
20	<i>Tecoma stans</i>	Bangaru gantalu	Bignoniaceae	12	Tree
21	<i>Tamarindus indica</i>	chinta	Caesalpinaceae	10	Tree
22	<i>Caesalpinia pulcherrima</i>	chittikesari	Caesalpinaceae	8	Tree
23	<i>Peltophorum pterocarpum</i>	konda chita	Caesalpinaceae	13	Tree
24	<i>Cassia montana</i>	konda tangedu	Caesalpinaceae	1	Shrub

25	<i>Bauhenia purpurea</i>	devakanchana m	Caesalpinaceae	5	Tree
26	<i>Caesalpinia bonduc</i>	gachha poda	Caesalpinaceae	3	Tree
27	<i>Leucaena leucocephala</i>	subabul	Caesalpinaceae	22	Tree
28	<i>Cassia fistula</i>	rela	Caesalpinaceae	2	Shrub
29	<i>Canna indica</i>	metta tamara	Cannaceae	5	Herb
30	<i>Carica papaya</i>	boppai	Caricaceae	2	Tree
31	<i>Casuarina equisetata</i>	sarugudu	Casuarinaceae	6	Tree
32	<i>Terminalia catappa</i>	badam	Combretaceae	10	Tree
33	<i>Kalanchoe brasiensis</i>	Bryophyllum	Crassulaceae	6	Herb
34	<i>Kalanchoe daigremontiana</i>	Bryophyllum	Crassulaceae	5	Herb
35	<i>Momordica charntia</i>	kakara	Cucurbitaceae	5	Creeper
36	<i>Luffa acutangula</i>	beera	Cucurbitaceae	3	Creeper
37	<i>Coccinia cordifolia</i>	donda	Cucurbitaceae	3	Creeper
38	<i>Cycas bedomi</i>	peritha	Cycadaceae	4	Tree
39	<i>Phyllanthus emblica</i>	usiri	Euphorbiaceae	6	Tree

40	<i>Acalypha indica</i>	muripinda	Euphorbiaceae	13	Shrub
41	<i>Euphorbia pulcherrima</i>	euphorbia	Euphorbiaceae	14	Shrub
42	<i>Jatropha curcus</i>	adavi amudam	Euphorbiaceae	4	Shrub
43	<i>Clitoria ternata</i>	shankapushpi	Fabaceae	5	Creeper
44	<i>Dalbergia sissoo</i>	jittegi	Fabaceae	24	Tree
45	<i>Pongamia pinnata</i>	kanuga	Fabaceae	16	Tree
46	<i>Gliriceridia sepium</i>	eruvaka	Fabaceae	10	Tree
47	<i>Pterocarpus santalinus</i>	erra chandanam	Fabaceae	1	Tree
48	<i>Quercus suber</i>	silver oak	Fagaceae		Tree
49	<i>Aloe barbedens</i>	kalabanda	Liliaceae	4	Herb
50	<i>Scilla indica</i>	scilla	Liliaceae	2	Herb
51	<i>Tradescantia sps</i>	rheodiscolar	Liliaceae	4	Herb
52	<i>Torenia fournieri</i>	bluewings	Linderniaceae	1	Herb
53	<i>Malvaviscus arboreus</i>	mirapa mandara	Malvaceae	3	Shrub
54	<i>Hibiscus rosa sinensis</i>	mandara	Malvaceae	10	Shrub

55	<i>Kavalama urens</i>	eera poliki	Malvaceae	1	Shrub
56	<i>Azadirichta indica</i>	vepa	Meliaceae	25	Tree
57	<i>Tinospora cordifolia</i>	tippa teega	Menispermidae	10	Creeper
58	<i>Mimosa pudica</i>	atti patri	Mimosaceae	15	Herb
59	<i>Albizia lebbek</i>	dirishana	Mimosaceae	11	Tree
60	<i>Albizia procera</i>	tella chinduga	Mimosaceae	16	Tree
61	<i>Prosopis juliflora</i>	sarkar tumma	Mimosaceae	10	Tree
62	<i>Acacia nilotica</i>	nalla tumma	Mimosaceae	19	Shrub
63	<i>Pithecellobium dulce</i>	seema chinta	Mimosaceae	4	Tree
64	<i>Parkia biglandulosa</i>	tennis ball tree	Mimosaceae	1	Tree
65	<i>Artocarpus integrifolia</i>	panasa	Moraceae	1	Tree
66	<i>Ficus carica</i>	anjeer	Moraceae	1	Tree
67	<i>Ficus glomerata</i>	medi	Moraceae	5	Tree
68	<i>Ficus religiosa</i>	raavi	Moraceae	20	Tree
69	<i>Moringa oleifera</i>	munaga	Moringaceae	4	Tree

70	<i>Musa paradisiaca</i>	arati	Musaceae	4	Tree
71	<i>Ravenila madagascarensis</i>	traveller plant	Musaceae	1	
72	<i>Psidium guajava</i>	jama	Myrtaceae	6	Tree
73	<i>Syzygium cumini</i>	neredu	Myrtaceae	8	Tree
74	<i>Bougainvillea spectabilis</i>	kagitham pulu	Nyctaginaceae	8	Creeper
75	<i>Nyctanthes arbor tristis</i>	parijatham	Oleaceae	5	Creeper
76	<i>Cymbopogon citratus</i>	Lemon grass	Poaceae	6	Herb
77	<i>Portulaca grandiflora</i>		Portulacaceae	10	Herb
78	<i>Portulaca oleracea</i>		Portulacaceae	10	Herb
79	<i>Punica granatum</i>	danimma	Punicaceae	8	Tree
80	<i>Zizyphus jujuba</i>	regu	Rhamnaceae	4	Shrub
81	<i>Rosa sinensis</i>	rose	Rosaceae	10	Shrub
82	<i>Ixora coccinea</i>	Rama bhanam	Rubiaceae	12	Herb
83	<i>Quisqualis sps</i>	radha manoharam	Rubiaceae	6	Creeper
84	<i>Neolamarckia cadamba</i>	kadambam	Rubiaceae	1	Tree

85	<i>Murraya koenigii</i>	karivepaku	Rutaceae	14	Tree
86	<i>Achras sapota</i>	sapota	Sapotaceae	4	Tree
87	<i>Cestrum nocturnum</i>	night queen	Solanaceae	6	Creeper
88	<i>Sterculia foetida</i>	adavi badam	Sterculiaceae	9	Tree
89	<i>Thuja occidentalis</i>	thuja	Thujaceae	6	Shrub
90	<i>Gmelina arborea</i>	gummadi tekku	Verbenaceae	12	Tree
91	<i>Tectona grandis</i>	tekku	Verbenaceae	25	Tree
92	<i>Cissus quadrangularis</i>	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	<i>Mangifera indica</i>	mamidi	Anacardiaceae	2	Tree
2	<i>Annona squamosa</i>	sitaphalamu	Annonaceae	10	Tree

3	<i>Polyalthia longifolia</i>	nara mamidi	<i>Annonaceae</i>	5	Tree
4	<i>Phoenix dactylifera</i>	eetha	<i>Arecaceae</i>	2	Tree
5	<i>Cassia montana</i>	konda tangedu	<i>Caesalpinaceae</i>	5	Shrub
6	<i>Carica papaya</i>	boppai	<i>Caricaceae</i>	2	Tree
7	<i>Kalanchoe brasiliensis</i>	Bryophyllum	<i>Crassulaceae</i>	6	Herb
8	<i>Coccinia cordifolia</i>	donda	<i>Cucurbitaceae</i>	3	Creeper
9	<i>Phyllanthus emblica</i>	usiri	<i>Euphorbiaceae</i>	6	Tree
10	<i>Clitoria ternata</i>	shankapushpi	<i>Fabaceae</i>	2	Creeper
11	<i>Pongamia pinnata</i>	kanuga	<i>Fabaceae</i>	8	Tree
12	<i>Aloe barbadensis</i>	kalabanda	<i>Liliaceae</i>	4	Herb
13	<i>Malvaviscus arboreus</i>	mirapa mandara	<i>Malvaceae</i>	3	Shrub
14	<i>Azadirachta indica</i>	vepa	<i>Meliaceae</i>	25	Tree
15	<i>Tinospora cordifolia</i>	tippa teega	<i>Menispermidae</i>	10	Creeper
16	<i>Mimosa pudica</i>	atti patri	<i>Mimosaceae</i>	4	Herb
17	<i>Syzygium cumini</i>	neredu	<i>Myrtaceae</i>	3	Tree
18	<i>Punica granatum</i>	danimma	<i>Punicaceae</i>	4	Tree
19	<i>Murraya koenigii</i>	karivepaku	<i>Rutaceae</i>	14	Tree
20	<i>Cissus quadrangularis</i>	nalleru	<i>Vitaceae</i>	2	Creeper
21	<i>Catharanthus roseus</i>	Billa ganneru	<i>Apocynaceae</i>	4	Shrub
22	<i>Datura metel</i>	Ummetha(blue color flower)	<i>solanaceae</i>	1	Shrub
23	<i>Datura stramonium</i>	Ummetha(white color flower)	<i>solanaceae</i>	1	Shrub

24	Ocimum sanctum	thulasi	lamiaceae	3	Shrub
25	Rauvolfia vomitoria	Rauvolfia	Apocynaceae	2	Shrub
26	Zingiber officinale	Ginger	Zingiberaceae	3	Shrub
27	Curcuma longa	Termeric	Zingiberaceae	3	Shrub

20. Any threatened plant species planted/conserved? No

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

Ans: No

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

Ans: No

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

Ans: Yes

No.of Fruit Yielding plants in the college campus				
Sl.No.	Botanical Name	vernacular / common name	Family	No. of Fruit yielding plants
1	<i>Mangifera indica</i>	mamidi	Anacardiaceae	
2	<i>Annona squamosa</i>	sitaphalamu	Annonaceae	
3	<i>Phoenix dactylifera</i>	eetha	Arecaceae	
4	<i>Carica papaya</i>	boppai	Caricaceae	
5	<i>Punica granatum</i>	danimma	Punicaceae	
6	<i>Psidium guajava</i>	jama	Myrtaceae	
7	<i>Phyllanthus emblica</i>	usiri	Euphorbiaceae	
8	<i>Cissus quadrangularis</i>	nalleru	Vitaceae	
9	<i>Syzygium cumini</i>	neredu	Myrtaceae	
10	<i>Citrus limon</i>	Neemma	Rutaceae	

24. Is there any groves in your college? If yes details of the trees planted.

Ans: No

25. Is there any irrigation system in your college?

Ans: No

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

Ans: Herbs,shrubs,trees.

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

Ans: Yes

S.No.	Name of the Programme	Date	Resource Person	Organised by
1	Herbarium Techniques & Pollen Morphology	25th Feb.2019	Dr.T. Sreelatha Head Dept.of Botany , Govt degree and pg College,Jammikunta.T. S.	Dept. of Botany
2	Webinar on Ecosystem Restoration on the Occasion of World Environment day	05-06-2021	Dr.T.Ugendher Asst.Proffessor – Govt degree college Mahabubabad	Dept. of Botany.

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

Ans: Plantation Programme & Garden work





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

Ans: 30%

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

Ans: Improvement of plantation program

FAUNAL DIVERSITY

Government Degree & PG College located in Karimnagar District of Telangana. It has medium temperature between 25°C to 29°C. This climate is very suitable for a wide variety of flora and fauna to support its rich biodiversity. The faunal diversity of GDC Jammikunta as be studied and documented as below

S.No	Faunal group	Common Name	Scientific Name
1	Annelida	Earthworm	Mega scolex
		Leech	Hirudinea
2	Arthropods	Butterfly	Rhopalocera sps
		Dragonfly	Anisoptera
		Centipede	scolapendra
		Millipede	Julus
		Beetles	Coleoptera
		House fly	Masca domestica
		Mosquito	Anapheles ,culex ,Ades
		Ant	Formicidae
		Honey bee	Apis
3	Amphibians	Frogs	Rana hexadactyla ,Rana Tigrna
		Toad	Bufo
4	Reptiles	Garden Lizard	Calotes versicolor
		Cobra	Naja naja
		Chameleon	Chamaeleo calyptratus
		Monitor Lizard	Varanus
		Turtles	Chelonia mydas
5	Birds	Common Myna	Acridotheres Tristis
		House sparrow	Passer Domesticus
		House crow	Corvus spendens
		Cuckoo	Cuculidae
		Wood pecker	Picidae
		Goose	Anserini
		Ducks	Anas platyrhynchos
		Bee eater	Meropidae sps
		Pigeon	Columbo liviya
		Hen	Gallus gallus domesticus
		Owl	Anthene brama
		Parrot	Psittacopasserae
		Cranes	Grus grus

		Hérons	<i>Ardea herodias</i>
		Bulbul	<i>Pycnonotidae</i>
6	Mammals		
		Bats	<i>Pipistrellus pipistrellus</i>
		Monkey	Macaques
		Cow	<i>Bos Taurus</i>
		Buffalo	<i>Bubalus bubalis</i>
		Sheep	<i>Ovis aries</i>
		Goat	<i>Capra aegagrus</i>
		Dog	<i>Canis lupus</i>
		Cat	<i>Felis catus</i>
		Rat	<i>Rattus</i>



Parrot



Cuckoo



Sparrow



Wood pecker



Butterfly



© Shutterstock 2009

Frog



Earth Worm



Goat



Monkey

AUDITING FOR CARBON FOOTPRINT

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

	Gents	Ladies	Total
No. of Students	390	413	803
No. of Teachers.	24	5	29
No. of Non-teaching staff	6	0	6

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

Ans: 50 vehicles

3. No. of cycles used:

Ans: 10 cycles

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

Ans: 35 two wheelers (average distance to and fro 40 KM and quantity of fuel 35 L and Amount used per day $35 \text{ L} * \text{Rs. } 100 = \text{Rs. } 3500$)

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

Ans: 5 Cars (average distance to and fro 40 KM and quantity of fuel 25 L and Amount used per day $25 \text{ L} * \text{Rs. } 100 = \text{Rs. } 2500$)

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

Ans: 200 persons (average distance to and fro 40 KM and quantity of fuel 100 L and Amount used per day $100 \text{ L} * \text{Rs. } 100 = \text{Rs. } 10,000$)

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):

Ans: Nil

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

Ans: 2

9. Number of visitors with vehicles per day?

Ans: 30 visitors

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

Ans: Nil

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

Ans: Nil

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

Ans: 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 the canteen.:

Ans: Nil

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

Ans: Rs. 3000

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

Ans: Rs. 500

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

Ans: 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.:

Ans: By using the Cycles and Electric Vehicles

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

Ans: Yes

19. Window Floor ratio of the Rooms Good/Not Enough:

Ans: Good

Carbon Footprint - Report

- Petrol used by two wheelers/day-35 L
- (Per person to and fro 40 Kms=1L) Fuel used by four wheelers (25 Persons) - 25 L
- (Per person to and fro 40 Kms=0.5 L) Fuel for persons (total 200 persons) travelling by common - 100 L
- College Transportation = Nil
- Total fuel use is 160 L / day

Total fuel cost per day for transportation =Rs. 16,000/- (160 L x Rs 100)

1. Water management

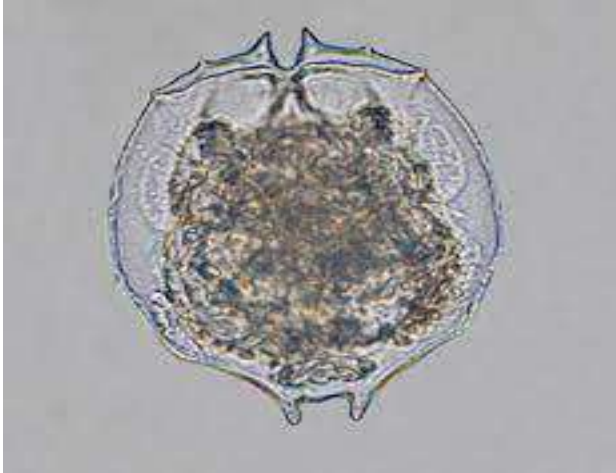
SL NO	PARAMETERS	Response	Remarks
1	Source of water	Bore well	
2	No. of Wells	0	
3	No. of motors used	1	
4	Horse power – Motor	1 HP	
5	Depth of well –Total	300 Ft	
6	Water level	100 Ft	
7	Number of water tanks	4	
8	Capacity of tank	1000 Liter capacity	
9	Quantity of water pumped every day	4000 Liters	
10	Any water wastage/why?	for cleaning of floor(500 Lts)	
11	Water usage for gardening	1000	
12	Waste water sources	cleaning of floor, Labs	
13	Use of waste water	Gardening	
14	Fate of waste water from labs	Linked to drainage	
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	Yes	
18	No. of water coolers	2	
19	Rain water harvest available?	Yes	
20	No. of units and amount of water harvested	2	
21	Any leaky taps	0	
22	Amount of water lost per day		
23	Any water management plan used?	Regular checkup of taps , Maintenance of RO Plant	
24	Any water saving techniques followed?	Aerators taps , Flush Controls, awareness programs	
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)	2 mg/ L	-	6-8
Acidity (mg/l)		-	200
Alkalinity (mg/l)	225	-	200
Chloride (mg/l)	125	-	250
Hardness (Total)	250	-	200
Conductivity (μ s)	800	-	
Ph.	7.5	-	6.5-8.5
Total Dissolved Solids (ppm)	550	-	500
Salinity (ppt)	15 %	-	
Total coliform		-	0
Fecal coliform		-	0

Water Quality analysis

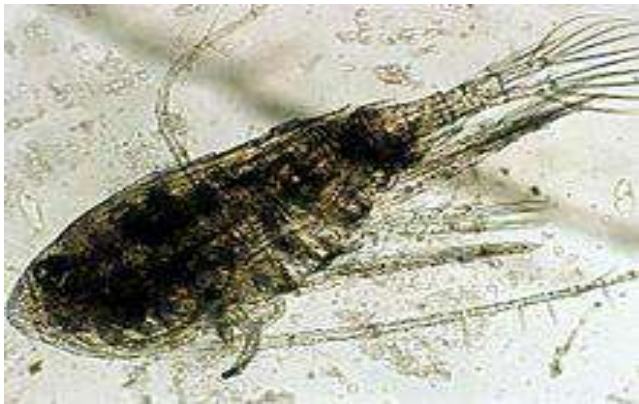
S.No	Zooplankton Group	Family	Scientific Name
1	Rotifera		
		Brachionidae	Brachionus angularis
			Brachionus calyciflorus
			Brachionus caudatus
			Brachionus diersicornis
			Brachionus quadridentata
		Lecanidae	Lecane lunaris
			Lecane monostyla
2	Cladocera	Daphnidae	Daphnia pulex
			Daphnia carinata
3	Copepoda	Diaptomidae	Cyclopoid copepodite
			Diaptomus pallidus
			Neodiaptomus
		Cyclopidae	Cyclops Sp
			Mesocyclops Sp
			Nauplius lavra
4	Ostracoda	Cyprididae	Cypris Sp
			Stenocypris Sp
5	Protozoa	Parameciidae	Paramecium caudatum
		Vorticellidae	Vorticella campanula



Brachionus



Lecane lunaris



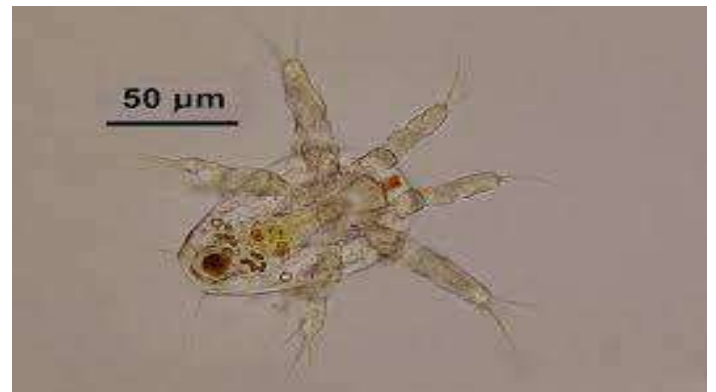
Diaptomids



Paramecium



Vorticella



Crustacean larva

1. ENERGY AUDIT

Energy Audit Report

Sl. No	Electrical appliances/instruments	Number	Power (W)/unit	Total power (W)	k W	Operation /day	KW/Hr	No. of days in month	Total consumption per month
1	CFL	20	14	280	0.3	4	1.12	25	1.2544
2	TUBE	65	38	2470	2.5	4	9.88	25	97.6144
3	LED BULB	10	9	90	0.1	4	0.36	25	0.1296
4	LED TUBE	13	20	260	0.3	4	1.04	15	1.0816
5	PROJECTOR	8	280	2240	2.2	1	2.24	25	5.0176
6	SPEAKERS	12	10	120	0.1	1	0.12	25	0.0144
7	FAN	170	60	10200	10	4	40.8	20	1664.64
8	COMPUTER	90	250	22500	23	4	90	20	8100
9	LAPTOPS	4	50	200	0.2	4	0.8	20	0.64
10	PRINTERS	10	60	600	0.6	1	0.6	20	0.36
11	PHOTOSTAT MACHINE	4	650	2600	2.6	2	5.2	15	27.04
12	SCANNER	6	50	300	0.3	0.5	0.15	15	0.0225
13	UPS	3	1000	3000	3	12	36	20	1296
14	A/C	2	7000	14000	14	1	14	15	196
15	REFRIGERATOR	2	150	300	0.3	24	7.2	30	51.84
16	TABLE FAN	2	55	110	0.1	2	0.22	25	0.0484
17	CENTRIFUGE	1	850	850	0.9	0.25	0.2125	8	0.04515625
18	AUTOCLAVE	1	1700	1700	1.7	1	1.7	4	2.89
19	INCUBATOR	1	40	40	0	4	0.16	25	0.0256
20	DISTILLATION UNIT	1	1000	1000	1	1	1	12	1
21	CCTV DVR	2	10	20	0	24	0.48	30	0.2304
Total Consumption per month							213.28		11445.89

2. Waste management

Approximate quantity of waste generated per day (in kg)

Office				
Approx.	Bio degradable	Non Biodegradable	Hazardous	Others
<1Kg	200 grams	50 grams	Nil	
2-10Kg				
>10Kg				

Laboratories				
Approx.	Bio degradable	Non Biodegradable	Hazardous	Others
<1Kg	100 grams	50 grams	Nil	
2-10Kg				
>10Kg				

Canteen/kitchen				
Approx.	Bio degradable	Non Biodegradable	Hazardous	Others
<1Kg	Not Applicable	Not Applicable	Not Applicable	
2-10Kg				
>10Kg				

How the waste generated in the college is managed?

A)Composting/ Vermicomposting	Yes	Remark
B)Recycling	No	
C)Reusing	Yes	
D)Other ways	Yes	

Waste generated in the college?

E-waste		Yes
Hazardous waste		No
Solid waste		Yes
Dry leaves		Yes
Canteen waste		No
Liquid waste		Yes
Glass		No
Unused Equipment		Yes
Napkins		Yes
Others (specify)		-

Do you use recycled paper in college?	Yes
Any waste management methods used?	Yes

3. Faunal diversity in college campus (with Photographic evidence)

S · N O	Faunal group	Common Name	Scientific Name	Number (If enumeration is done)	Seasonality
1	Annelida				
		Earthworm	Mega scolex	10	Rainy
		Leech	Hirudinea	5	Rainy
2	Arthropods				
		Butterfly	Rhopalocera sps	15	All Seasons
		Dragonfly	Anisoptera	20	All Seasons
		Beetles	Coleoptera	15	All Seasons
		House fly	Masca domestica	20	All Seasons
3	Amphibians				
		Frogs	Rana hexadactyla ,Rana Tigrna	5	Summer, Rainy
		Toad	Bufo	4	Summer, Rainy
4	Reptiles				
		Garden Lizard	Calotes versicolor	10	All Seasons

		Cobra	Naja naja	2	All Seasons
		Chameleon	Chamaeleo calyptratus	4	All Seasons
5	Birds				
		Ducks	Anas platyrhynchos	10	All Seasons
		Pigeon	Columbo liviya	5	All Seasons
		Hen	Gallus gallus domesticus	10	All Seasons
		Parrot	Psittacopasserae	20	All Seasons
6	Mammals				
		Bats	Pipistrellus pipistrellus	10	All Seasons
		Monkey	Macaques	20	All Seasons
		Cow	Bos Taurus	12	All Seasons
		Buffalo	Bubalus bubalis	20	All Seasons
		Goat	Capra aegagrus	15	All Seasons
		Dog	Canis lupus	10	All Seasons
		Cat	Felis catus	5	All Seasons
		Rat	Rattus	2	All Seasons

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

NO ₂	8 µg/m ³
O ₃	50 µg/m ³
PM2.5	68 µg/m ³
PM10	133 µg/m ³
CO	258 µg/m ³
SO ₂	19 µg/m ³
Humidity	55%
Barometric Pressure	92KPa
Wind Speed	6 km/h
Wind Direction	NORTH
Sun Rise	06:07 am
Sun Set	05.47 pm

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		38	42	40
2	Canteen		50	70	60
3	Play ground		45	55	50
4	Auditorium		55	60	57.5
5	Science Block		50	55	52.5
6	Any Other (Specify)				

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		A+ : 91-100
2	Waste audit		
3	Water audit		
4	Landscape or Environment audit		
5	Carbon footprint & Oxygen emission audit		A : 81-90
6	Green activities (conduction of seminars/conferences/workshops/student competitions/awareness programmes/observation of environmental related days etc.		B+ : 71-80
7	Student clubs (Environmental club/Green club/Nature club/Biodiversity club/ ECO Club/Friends and Fauna Club/Science club etc.) activity annual report		B : 61-70
	Total		C : 51 - 60