



SJM Vidyapeetha (R.) Chitradurga

SJM COLLEGE OF ARTS, SCIENCE & COMMERCE,

Chandravalli, Chitradurga

Affiliated to Davanagere University, Davanagere

NAAC Accredited with "A" Grade with CGPA 3.05

PROJECT WORK ON

GREEN AND ENVIRONMENT AUDIT

2022-23



J. J. J. J. J.
PRINCIPAL

Sri Jagadguru Murugharajendra College
of Arts, Science & Commerce
CHITRADURGA



Executive Summary

Eco friendly green campus is a concept implemented in many educational institutions, Sustainable because their mass resource utilization and waste discharge in to the environment. Waste minimization plans for educational Institute are now essential do maintain the cleanliness campus. It is necessary to conduct the Green audit in the campus to find out the environmental performance and to analyze the possible solution for converting the college campus as eco-friendly campus. This audit was mainly focused on greening indicators. Flora was documented with the help of relevant literature. Collected data was tabulated and analyzed. Finally recommendations were given to improve the lacunae in the campus.

NEED FOR GREEN AND ENVIRONMENT AUDIT

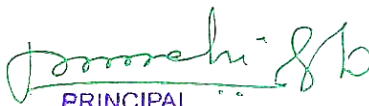
The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this front it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric carbon-di-oxide from the environment.

BENEFITS OF GREEN AND ENVIRONMENT AUDIT

If green audit is enforced in an effective way then there are many advantages that could be adopted from it.

- It would help to shield the environment.
- Recognize the cost saving methods through waste minimizing and managing.
- Empower the organizations to frame a better environmental performance.
- Enhance the alertness for environmental guidelines and duties.

In view of this our institution has constituted an internal committee and also invited an external team for auditing the campus environment. Target areas included in this green auditing are water, soil, energy, waste and green campus. The observations made by the team are as follows.


PRINCIPAL

Sri Jagadguru Murugharajendra College
of Arts, Science & Commerce
CHITRADURGA



About the College

S. J.M College of Arts, Science, and Commerce, Chandravalli, Chitradurga.

Sri Jagadguru Murugharajendra College of Arts, science and commerce (SJMC), Chitradurga was popularly known as SJM college of Arts. Science and commerce, Chitradurga was established On 1st June 1969 managed by S.J.M. vidyapeetha (R) which was established in 1966.

It is one of the premier colleges established to impart and provide in the field of higher education for the deserving candidates and milestone in the part of progress.

The College is at present affiliated with Davanagere University, Davanagere. Formerly affiliated with Kuvempu University, Shivamogga and it is recognized by the University grants commission (UGC) Under Section 2(f) and 12(B) on 31st March 1971 under Act 1956. It is re-accredited by national Assessment and accreditation council (NAAC) with “A” grade (CGPA score 3.05 on a 4 Point scale in 3rd cycle) on 28th, march 2017.

Sri Jagadguru Murugharajendra Colleges of Arts, Science, and commerce (S.J.M) is one of the reputed institutions which is well administered and offered good infrastructure, facilities and excellent academic activities in Chitradurga which is in the state Karnataka and this college excels not only in academic activities but also in and in Extra-curricular activities and in Sports too.

The College Strives to produce intellectually competent, morally upright and strong, compassionately committed, spiritually inspired and nationally dedicated men and women.

At present, the college is situated in a splendid place called Chandravalli, which has a panoramic View of mountains, greeneries, caves and historically significant Chandravalli Tank on Holalkere Road in outskirts of the city. The College is built on a land of 10 acres with all necessary infrastructures. The College offers three to four years undergraduate courses in BA ,BSc, and B.com.

College Location on Google Map





INTRODUCTION

The term "green" means Eco-friendly Environment- It can be acronymically called as "global Readiness in Ensuring Ecological Neutrality" (green). Green accounting can be defined as systematic identification quantification, recording, reporting and analysis of components of ecological diversity and expressing the same in financial or social terms.

A Committee has been formed to monitor the Proper conservation and plantation of the plants in the Campus. This responsibility has been given to the staff members Botany, Zoology, Physics, Mathematics and Chemistry departments of the college with cooperation of Principal, and green Audit committee. The green audit report has been discussed with green audit committee of the college with suggestions to increase greenery in campus, extra efforts have been taken by the college to create environment consciousness amongst students. One major step in this regard is the environmental awareness and plantation program organized by NSS, NCC, Rovers and Rangers. Red cross youth wing and green audit committee. Plantation encouraged by the Principal and Departments Faculty members to increase greenery. Extension programs like environmental day, world wetland day 'Vanamahotsava' also organized to create, environment awareness and conservation of Biodiversity.

Objectives of the Green Audit Committee

- Identifying problems: Detecting problems and providing the Solutions.
- Documenting the plant and Animal species in the campus.
- Measuring Environmental impact: measuring environmental impact of each and every activity in the Campus.
- Confirming Environmental management System effectiveness: giving an indication of the effectiveness of the system and suggestions for improvement.

METHODOLOGY ADOPTED

The methodology adopted to conduct the green audit of the Institution and the following Components.

1. Field visit was conducted by the green Audit Team and Students

The key focus of the visit was on assessing Status of the green cover of their institution, their waste management practices and energy conservation Strategies etc. The Survey is done the scientific manner as prescribed by the Standard procedures.



2. Focus Group Discussion:

The focus group discussions were held with the Science Staff members and the governing Body members 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. With the help of teachers and students, the audit team has assessed the diversity of plant generation, disposal and treatment facilities of the college.

3. Solid waste can be divided into Categories

Bio-degradable non bio-degradable. Bio-degradable wastes include food wastes, wastes from toilets etc. non-biodegradable wastes include what is usually thrown away in college Such as plastic, tins and glass bottles etc.

UN scientific 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 attentions should be given to the handling and management of hazardous waste generated in the college, especially chemical wastes generated from Chemistry, Botany and Zoology Laboratories.

GREEN AUDIT REPORT

AUDITING FOR WATER MANAGEMENT

Water sources of the college are bore well and the water supplied by municipality. Municipality water is stored in a sump. The analysis of this water will be carried out to confirm that water is suitable for drinking and general usage. For daily consumption, water is stored in the overhead tanks. An RO plant is installed for drinking water.

WATER STORAGE CAPACITY

SL.NO	PARTICULARS	CAPACITY
1	Bore well two	250 feet depth
2	Sump	5000 liters
3	Overhead Tank	1000+5000 =6000 liters
4	Rain water for distilled water tanks	1000 liters
5	R O filter Tank	500 liters
6	Water usage per day	10000 liters



BORE WELL



OVER HEAD TANK



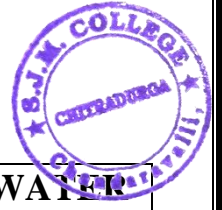
RO PLANT



RAIN WATER HARVESTING



WATER ANALYSIS



SL.NO	TEST	BOREWELL WATER	RO WATER
01	PH	7.94	8.04
02	CONDUCTANCE	651	36
03	ODOUR	AGREEABLE	AGREEABLE
04	TASTE	-	-
05	COLOUR	01	<1
06	TURBIDITY	<0.5	<0.5
07	TDS mg/l	385	21
08	ALKALINITY AS CaCo3 mg/l	140	8.0
09	TOTAL HARDNESS AS CaCo3 mg/l	160.1	6.7
10	CALCIUM mg/l	36.8	1.6
11	MAGNESIUM mg/l	16.5	0.9
12	CHLORIDE mg/l	63.9	4.0
13	SULPHATE mg/l	12.8	0.7
14	FLUORIDE mg/l	0.93	<0.1
15	NITRATE mg/l	3.5	0.8
16	IRON mg/l	0.13	<0.1

RURAL DRINKING WATER & SANITATION DEPARTMENT, Govt. Chitradurga District Water Quality Testing Laboratory (RAJL, Government), Zilla Panchayath Premises, Main Road, Chitradurga - 577001

TEST REPORT

To: Name: The Principal
Address: SJM Science, Arts & Commerce College
Taluk: Chitradurga
District: Chitradurga
Contact Number: 9164718023

Report date: 18.09.2023
Report Number: 2376
Applicant: The Principal
Sample receipt date: 18.09.2023
Sample code: C60110
Analysis start date: 15.09.2023
Analysis completion date: 15.09.2023
Sample collection point: NA
Sample quantity: 100ml

Sl No	Test	Results	Acceptable Limit IS 10500 : 2012 RA-2018	Permissible Limit IS 10500 : 2012 RA-2018	Protocol
Description: Colorless, odourless, Clear Water Sample					
1	pH Value @Temp25°C	7.94	6.5 - 8.5	No relaxation	IS 3025 (Part-21): 2022
2	Specific Conductance @Temp25°C	651	-	-	IS 3025 (Part-14): 2018
3	Odour	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5 & 6): 2018
4	Taste	-	Agreeable	Agreeable	IS 3025 (Part-4): 2017
5	Colour, Hazen Units	01	5	15	IS 3025 (Part-4): 2017
6	Turbidity, NTU	<0.5	1	5	IS 3025 (Part-22): 1984
7	Total Dissolved Solids @ 180°C, mg/l	385	500	2000	IS 3025 (Part-22): 1984
8	Alkalinity as CaCO ₃ , mg/l	140	200	600	IS 3025 (Part-23): 1986
9	Total Hardness as CaCO ₃ , mg/l	160.1	200	600	IS 3025 (Part-23): 2009
10	Calcium as Ca, mg/l	36.8	75	200	IS 3025 (Part-40): 1991
11	Magnesium as Mg, mg/l	16.5	30	100	IS 3025 (Part-46): 1994
12	Chloride as Cl, mg/l	63.9	250	1000	IS 3025 (Part-32): 1988
13	Sulphate as SO ₄ , mg/l	12.8	200	400	IS 3025 (Part-24): 2022
14	Fluoride as F, mg/l	0.93	1	1.5	APHA 23 rd Edition
15	Nitrate as NO ₃ , mg/l	3.5	45	No relaxation	APHA 23 rd Edition
16	Iron as Fe, mg/l	0.13	1	No relaxation	IS 3025 (Part-53): 2003

Remarks: The above tested sample meet the acceptable limit of IS 10500:2012 RA 2018 drinking water specification.

Analysed by: [Signature] Junior Analyst: VHS/STP
Authorized Signatory: [Signature] Technical Manager: S.M.P. Nand K.P. RDWSD/WQSP/Tr/D/01

NOTE:
1. The above results relate only to the sample analysed at this laboratory.
2. The report shall not be reproduced except in full without the prior approval of the Quality Manager.
3. Traceability: Traceability of measurements is established using CRMs traceable to National/International standards.
4. Samples will be discarded after 15 days from the date of report generation.
5. Decision rule is applicable as per the procedure mentioned in RDWSD/WQSP/DR 01.
End of Test Report

RURAL DRINKING WATER & SANITATION DEPARTMENT, Govt. Chitradurga District Water Quality Testing Laboratory (RAJL, Government), Zilla Panchayath Premises, Main Road, Chitradurga - 577001

TEST REPORT

To: Name: The Principal
Address: SJM Science, Arts & Commerce College
Taluk: Chitradurga
District: Chitradurga
Contact Number: 9164718023

Report date: 18.09.2023
Report Number: 2310
Applicant: The Principal
Sample receipt date: 18.09.2023
Sample code: C60110
Analysis start date: 15.09.2023
Analysis completion date: 15.09.2023
Sample collection point: NA
Sample quantity: 100ml

Sl No	Test	Results	Acceptable Limit IS 10500 : 2012 RA-2018	Permissible Limit IS 10500 : 2012 RA-2018	Protocol
Description: Colorless, odourless, Clear Water Sample					
1	pH Value @Temp25°C	8.04	6.5 - 8.5	No relaxation	IS 3025 (Part 11): 2022
2	Specific Conductance @Temp25°C	36	-	-	IS 3025 (Part-14): 2018
3	Odour	Agreeable	Agreeable	Agreeable	IS 3025 (Part-5 & 6): 2018
4	Taste	-	Agreeable	Agreeable	IS 3025 (Part-4): 2017
5	Colour, Hazen Units	<1	5	15	IS 3025 (Part-4): 2017
6	Turbidity, NTU	<0.5	1	5	IS 3025 (Part-22): 1984
7	Total Dissolved Solids @ 180°C, mg/l	21	500	2000	IS 3025 (Part-22): 1984
8	Alkalinity as CaCO ₃ , mg/l	80	200	600	IS 3025 (Part-23): 1986
9	Total Hardness as CaCO ₃ , mg/l	6.7	200	600	IS 3025 (Part-23): 2009
10	Calcium as Ca, mg/l	1.6	75	200	IS 3025 (Part-40): 1991
11	Magnesium as Mg, mg/l	0.9	30	100	IS 3025 (Part-46): 1994
12	Chloride as Cl, mg/l	4.0	250	1000	IS 3025 (Part-32): 1988
13	Sulphate as SO ₄ , mg/l	0.7	200	400	IS 3025 (Part-24): 2022
14	Fluoride as F, mg/l	<0.1	1	1.5	APHA 23 rd Edition
15	Nitrate as NO ₃ , mg/l	0.8	45	No relaxation	APHA 23 rd Edition
16	Iron as Fe, mg/l	<0.1	1	No relaxation	IS 3025 (Part-53): 2003

Remarks: The above tested sample meet the acceptable limit of IS 10500:2012 RA 2018 drinking water specification.

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3. Traceability: Traceability of measurements is established using CRMs traceable to National/International standards.
4. Samples will be discarded after 15 days from the date of report generation.
5. Decision rule is applicable as per the procedure mentioned in RDWSD/WQSP/DR 01.
End of Test Report

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SOIL ANALYSIS



SL.NO	PARTICULARS	TEST VALUES	RATING
1	p ^H	7.25	Neutral
2	EC	0.35b dS/m	Medium
3	Organic Carbon	0.42%	low
4	Available Nitrogen	0.212 kg/ha	Medium
5	Available Phosphorus	28.36 kg/ha	High
6	Available Potassium	129.36 kg/ha	High
7	Available Sulphur	12.4 ppm	Medium
8	Available Zinc	0.58 ppm	Medium
9	Available Boron	0.4 ppm	Medium
10	Available Iron	3.9 ppm	low
11	Available Manganese	2.1 ppm	Medium
12	Available Copper	0.2 ppm	Medium

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Waste water management:

1. Rain water from the roof top is collected in the sump and this water is utilized for laboratories and watering the plants.
2. The waste water from R O plant is used for plants and excess water is drained out.
3. Waste water from washrooms and laboratories are directed to the soak pit through proper drainage system.
4. Water recycling system is not yet adopted in the college.

AUDITING FOR WASTE MANAGEMENT

To manage solid waste, separate dustbins for degradable and non-degradable waste are installed at different places in the campus. Non degradable waste is collected by the municipality vehicle. The degradable waste along with other plant

Handwritten signature of the Principal
 PRINCIPAL



waste will be disposed in the compost pit. The manure obtained from the compost pit is used as fertilizer.

E-waste will be sold to scrap buyers with the permission of Principal and college governing body. The campus is a plastic free zone due to the constant awareness created by the faculty among the students regarding the harmful effects of dumping plastic in the environment. Chemical wastes from the laboratories are neutralized with water.

Dust bins



ROOF TOP SOLAR PANELS

Roof top solar panels are installed in the college building .



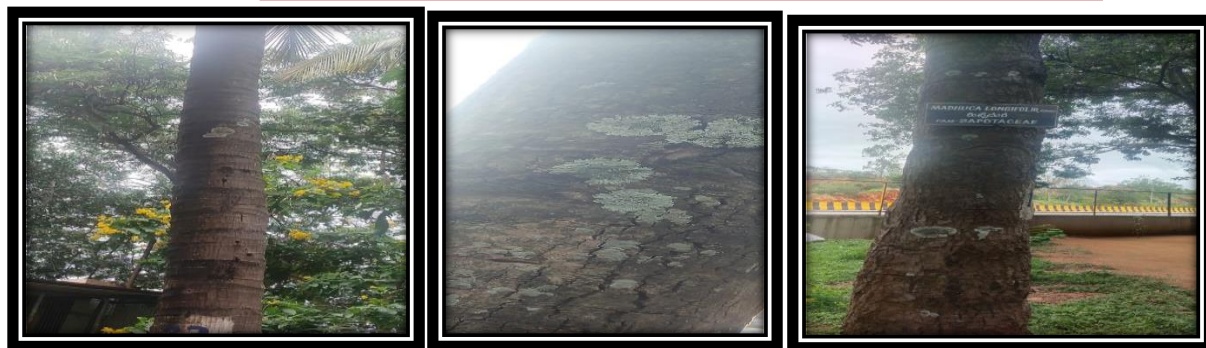
AUDIT FOR CARBON FOOT PRINT

Presence of lichens in college campus – Lichens as an indicator of pollution free zone air quality indicator species are organisms that provide information on the condition of their environment. Lichens are one such example,

What are lichens?

Lichens are organisms consisting of a symbiotic relationship between a fungus and a chlorophyll-containing partner, either algae or cyanobacteria. Fungi are incapable of photosynthesis as they do not possess chlorophyll, but algae and cyanobacteria do. By forming a symbiotic relationship, the fungus gains constant access to nourishment, and can thus thrive. Lichens are found in both nature and in human-made environments, including rocks, trees, barren earth, metal and concrete. They are sensitive to air pollution because they receive all nutrients from the atmosphere, which makes them valuable as indicator species. In particular, the two pollutants that mostly affect lichens are nitrogen (N) and sulfur dioxide (SO₂).

Pollution Indicators - Lichens



ANALYSIS REPORT OF AMBIENT AIR QUALITY

SL.NO	PARAMETERS	RESULT
01	Particulate Matter PM ₁₀	72.06
02	Sulphur Dioxide as SO ₂	4.02
03	Oxides of Nitrogen as NO ₂	11.50

As most of the students are from rural areas, they use public transport on a daily basis. Less than 10% of the students use two wheelers and very rarely do faculty members use four wheelers.

J. S. Murugharajendra
PRINCIPAL

Sri Jagadguru Murugharajendra College
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AMBIENT NOISE LEVEL MONITORING REPORT

SL.NO	SAMPLE LOCATION	TIME FREQUENCY	RESULTS [avg.in dB(A)Leq]
01	In front of Principal Room	11.20am to 11.40am	58.2
02	In front of ICP Room	11.55am to 12.15am	56.7
	In front of Class Room	12.40pm to 01.00pm	59.9

Considering the above parameters the campus can be declared as a near carbon free zone.

MSV Analytical Laboratories
 Recognition by MOEF under Environment (Protection) Act, 1986 and Accredited by NABL
 (Certificate No. 150-14001-2019-ISO 22000:2018, ISO 45001:2018, ISO 9001:2015)
 C.M.C. Road No. 19 & C.T.C. W. No. 16 & S. No. 685(A)(2)(B), Block No. 19 (1st & 2nd Floor)
 Sangameshwar Road, 418 Circle, Hubli-1, Dist. Belgaon, Karnataka, India | Hubli-1, Dist. Belgaon, Karnataka, India | Hubli-1, Dist. Belgaon, Karnataka, India
 E-mail: msvalab@gmail.com, labmsv@gmail.com, Website: www.msvalab.com

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 E-mail: msvalab@gmail.com, labmsv@gmail.com, Website: www.msvalab.com

ANALYSIS REPORT OF AMBIENT AIR QUALITY
 MSVALA/7/12/204
 Test Report No: TC720721000001072F
 Issued Date: 25.01.2023

- Name of the Institution: SIM College of Arts, Science and Commerce, Chitradurga, Holalkere Road, Chitradurga, Karnataka, India
- Name of the location: College Front Education Road, Chitradurga, Karnataka, India
- Sample Collected By: MSV Analytical Laboratories
- Particulars of the sample: Sample collected with RD5-1600B
- Date of Sample Receipt: 20.01.2023
- Analysis Starting Date: 23.01.2023
- Analysis Completion Date: 25.01.2023
- Sample Tested as Received

S.No	PARAMETERS	PROTOCOLS	UNITS	DURATION OF MONITORING	RESULTS	STANDARDS
1	Particulate Matter (PM ₁₀)	IS-5182(Part-2)	µg/m ³	24 hrs	72.06	100
2	Sulphur Dioxide as SO ₂	IS-5182(Part-2)	µg/m ³	24 hrs	4.62	80
3	Oxides of Nitrogen as NO _x	IS-5182(Part-2)	µg/m ³	24 hrs	11.50	80

INFERENCE: As per NABL Standards, Report Status: The analyzed value for above measured parameter is within the limits.

AMBIENT NOISE LEVEL MONITORING REPORT
 MSVALA/7/12/204
 Test Report No: TC720721000001072F
 Issued Date: 25.01.2023

- Name of the Institution: SIM College of Arts, Science and Commerce, Chitradurga, Holalkere Road, Chitradurga, Karnataka, India
- Sample Collected By: MSV Analytical Laboratories
- Particulars of the sample collected: Report Date: 25.01.2023
- Date of Monitoring: 25.01.2023
- Report Date: 25.01.2023
- Method Adopted: Instrument Manual Method

S.No	Sample Location	Time Frequency	Max. (dB(A))	Min. (dB(A))	Avg. (dB(A))	KSPCR limits in dB(A) Leq
1	In front of Principal Room	11.20am to 11.40am	53.2	45.2	58.2	75
2	In front of ICP Room	11.55am to 12.15am	53.4	46.1	56.7	75
3	In front of Class Room No.34	12.40pm to 01.00pm	55.6	48.2	59.9	75

INFERENCE: As per KSPCR Standards, Report Status: In the all locations Noise level is within the limits.

GREEN CAMPUS

The College campus is enriched with a variety of plants. The premises are enriched by greenery of various plant species. The plants are seen in the corridor, along the building walls, border area of the playground and in the botanical garden. Several types of plant species are available in the campus including both wild and cultivated. Each species is represented by varied number of individuals. Common wild plants, Fruit trees, Ornamental plants, Medicinal plants are cultivated in the botanical garden for field study and also for practical purpose. Following are the identified list of plant species available in the college campus



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LIST OF PLANTS IN THE CAMPUS

Total no of plant species identified-66

Total no of trees in the campus-352

S L · N o	FAMIL Y	SCIEN TIFIC NAME	COMM ON NAME	DEN SIT Y	MEDICINAL USES
01.	Acantha ceae	1.Justic ia <i>adhato da</i>	Malabar nut	01	Primarily used as a treatment of issues related to the respiratory system. It treats conditions of excessive cough and improves breathing in patients affected by coryza and dyspnoea. It is effective in reducing cough and clears congestion in the chest.
02.	Annacar diaceae	1. <i>Mang ifera indica</i>	Mango	01	primarily used as a treatment of issues related to the respiratory system. It treats conditions of excessive cough and improves breathing in patients affected by coryza and dyspnoea. It is effective in reducing cough and clears congestion in the chest.
03.	Annona ceae	1. <i>Anno na squam osa</i>	Custurd apple	02	Annona squamosa is a lowland tropical shrub that possesses a high pharmaceutical potential for treating cardiac ailments, thyroid-related disorders, diabetes, and cancer.
04.	Apocyn aceae	1. <i>Casc abela theveti a</i>	Lucky bean	01	Although poisonous if consumed by itself, C. thevetia is considered effective in preparations for eye infections, as well as for fever, leprosy, and hemorrhoids. Bark: Bark preparations are used for fevers, burns, ringworm, and rashes.
		2. <i>Neriu m oleand er</i>	Nerium	02	Despite the danger, oleander is of great medicinal importance and used for heart conditions, asthma, epilepsy, cancer, painful menstrual periods, leprosy, malaria, ringworm, indigestion, and venereal disease; and to cause abortions, as well as drugs derived from this plant, is used in treatment of cancer

05.	Arecaeae	1. <i>Archontophoenix alexandere</i>	King palmtree	02	The Alexandra Palm is grown for its stately habit and is planted in tropical gardens or along water courses singularly or in groups. It is suitable for coastal and low-mountain regions, establishing in 3 to 5 years and is also used for riverbank binding.
		2. <i>Cocos nucifera</i>	Coconut	03	Industry is using the husk fiber from the pith as raw material for carpets, car seat stuffing, and in agricultural as fertilizers. The hard core is used to make handicrafts. The stalk and leaves of the coconut tree are useful in construction, and sugar, vinegar, and alcohol can be extracted from the inflorescence
06.	Bignoneae	1. <i>Tecoma stans</i>	Yellow elder	01	Pharmacologically <i>Tecoma stans</i> flower is traditionally used for many ailments including cancer, diabetes and arthritis. <i>Tecoma stans</i> , also shows antioxidant, wound healing, antispasmodic, antiproliferative, anti-inflammatory, antimicrobial, antifungal and cytotoxic properties.
07.	Casuarinaceae	1. <i>Casuarina equisetifolia</i>	Australian pine tree	02	Medicinal (The bark is used to treat dysentery and diarrhoea. The twigs are used for swelling and as a wash for beri beri.) Timber & Products (The wood of this tree is extremely hard and dense, and has been used for construction of stilts, poles and fences in coastal areas.
08.	Cambretaceae	1. <i>Terminalia catappa</i>	Indian almond	04	The oil is employed medicinally as a substitute for true almond oil to relieve abdominal inflammations, and, cooked with the leaves, in treating leprosy, scabies and other skin diseases. The flesh of the fruit is also edible, but is often fibrous and not tasty in spite of the pleasant smell.
		2. <i>Terminalia arjuna</i>	Arjun tree	05	Its bark decoction is being used in the Indian subcontinent for anginal pain, hypertension, congestive heart failure, and dyslipidemia, based on the observations of ancient physicians for centuries.
09.	Cucurbitaceae	1. <i>Diploclados</i>	Striped cucumber	01	Traditionally, this plant has been used in the folk medicine and possesses several activities such as



		<i>palmatus</i>	r		gynaecological, anti-asthmatic, anti-convulsant anti-venom, anti-inflammatory, androgenic and antioxidant
10.	Cupressaceae	1. Cupressus lusitanica	Mexican cypress	19	The essential oil from the leaves of <i>C. lusitanica</i> is commonly used to treat haemorrhoids, rheumatism, whooping cough and styptic problems. The leaves of <i>C. lusitanica</i> are used traditionally to protect stored grains from insect infestation and also to cure skin diseases.
11.	Cycadaeeae	1. <i>Cycas rajbergii</i>	Cycas	03	The male cones of the plant are used in Ayurvedic medicine as a cure for rheumatoid arthritis and muscle pains. This cycad, due to its demand for medicinal purposes, and consequent reduction in living populations, is now an endangered species.
12.	Fabaceae	1. <i>Albizia chinensis</i>	Chocolate heart	17	It can be used as a fodder tree, its leaves being readily eaten by goats, though the bark of branchlets remains untouched, possibly because of its high saponin content. A showy tree, Chinese albizia is used as an ornamental in parks and avenues. It is helpful for slope stabilization and soil improvement.
		2. <i>Albizia julibrissin</i>	Silk tree	38	<i>Albizia julibrissin</i> Durazz., a leguminous deciduous shrub, is one of the most common herbs used for depression treatment. In TCM practice, its dried flowers or bark are generally processed for medicinal purposes. The main ingredients in <i>A. julibrissin</i> include triterpenoids, lignans, flavonoids, saponins, sterols, etc.
		3. <i>Albizia lebbek</i>	Women's tongue	01	<i>Albizia lebbek</i> , a flora of the family Mimosaceae, is a deciduous woody tree which is traditionally used for treating asthma, colds, coughs, and other allergic diseases
		4. <i>Bauhinia farficata</i>	Brazilian orchid	02	Ethnopharmacological relevance: <i>Bauhinia forficata</i> Link, commonly known as "cow's paw", is a native plant from South America. Its leaves are widely used in Brazilian folk medicine to treat diabetes and cardiovascular disorders.
		5. <i>Cerat</i>	Carob	02	Carob is also being considered as a treatment for

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	<i>onia siliqua</i>			cervical and lung cancers due to its antioxidant activity. Anti-fungal and antibacterial activity. A powder made from Carob pods and seeds are used as an anti-fungal, antibacterial agent in treating wounds and other skin disorders.
	6. <i>Dalbergia sisso</i>	Indian rosewood	03	It is used to treat sore throats, dysentery, syphilis, bronchitis, inflammations, infections, hernia, skin diseases, and gonorrhoea.
	7. <i>Dichrostachys cinerea</i>	Omubambani	01	cinerea is traditionally used in the treatment of rheumatism, diabetes, coughs, asthma, kidney disorders, gonorrhoea, syphilis, malaria, tuberculosis, epilepsy, snake bites, pains, wounds, boils, burns, toothache, headache, and scabies.
	8. <i>Entada abyssinica</i>	Splinter	01	It is traditionally used to treat coughs, rheumatism, bronchitis, abdominal pains, diarrhoea and fever and to prevent miscarriage . Some pharmacological properties of E. abyssinica have been previously reported, including anti-inflammatory, antimicrobial and antioxidant
	9. <i>Leucaena leucocephala</i>	Dumbay	05	Leucaena is valuable for its wood, which is used to make good quality charcoal, small furniture and paper pulp. Its young shoots, young leaves and seeds may be used as a vegetable in human nutrition. Seeds can also be used as a substitute of coffee or as pieces of jewellery
	10. <i>Machaerium scleroxylon</i>	Caviana	01	Machaerium scleroxylon (Pao ferro) of the Fabaceae family are used for high-class furniture and cabinetwork, knife handles, wooden jewelry, and musical instruments can cause contact dermatitis.
	11. <i>Milllettia pinnata</i>	Indian beech	10	pinnata (L.) Panigrahi flower is used for the treatment of piles as well as bleeding disorders. Its fruits are meant for the treatment of abdominal ulcer and tumor. The leaf juice is meant for the treatment of cough, colds, leprosy, diarrhoea.
	12. <i>Par</i>	Tree	01	Traditional uses of Parkia timoriana by the Lotha



		<i>Parkia timoriana</i>	bean		community of Wokha. <i>Parkia timoriana</i> has been realized as a multipurpose tree species, with all of its parts used such as pods, dried or fresh seeds, leaf shoots and flowers, leaves, bark and timber, and usage is increasing in recent years.
		13. <i>Prosopis glandulosa</i>	Honey mesquite	02	<i>glandulosa</i> has been used for a variety of medicinal purposes, including lice control and treatment of sore throat, skin sores and ulcers. Reported to be a collyrium, emetic and laxative, <i>P. glandulosa</i> is a folk remedy for dyspepsia, eruptions, hernias and skin and umbilical ailments.
		14. <i>Prosopis juliflora</i>	Mesquite	06	<i>Prosopis</i> is a commercially important plant genus, which has been used since ancient times, particularly for medicinal purposes. Traditionally, Paste, gum, and smoke from leaves and pods are applied for anticancer, antidiabetic, anti-inflammatory, and antimicrobial purposes.
		15. <i>Saraca asoca</i>	Ashoka tree	18	Ashoka has been traditionally used in Indian Ayurveda as a uterine tonic and has been indicated in menstrual irregularities ESP in DUB. Ashoka happens to be a uterine stimulant and increases uterine contractions. It also stimulates the ovarian tissue.
		16. <i>Tamarindus indica</i>	Tamarind	08	<i>Tamarindus indica</i> ; which is one of the highly commercialized medicinal plants is known for its potent anti-inflammatory activities. 7, 8 This tropical tree has been used to treat inflammation, stomach pain, throat pain, and rheumatism in traditional medicine.
13.	Fagaceae	1. <i>Castanopsis</i>	Chinkapin	01	the nuts of many <i>Castanopsis</i> species are edible. The trees may be grown for their nuts, but more often they are used as forestry or ornamental trees and the nuts are collected opportunistically.
		2. <i>Castanea sativa</i>	Sweet chestnut	01	The fruit (chestnut) can be roasted and eaten as food. The leaves and bark are used in medicine. European chestnut contains chemicals called tannins and flavonoids that might help reduce skin swelling and kill bacteria.

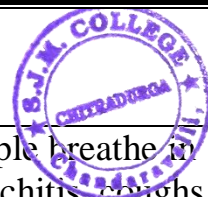


		<i>3. Quercus phellos</i>	Willow oak	01	primarily as an ornamental tree and the wood for pulp and paper production, but also for lumber; it is often marketed as "red oak" wood.
14.	Gentianaceae	<i>1. Anthocleista grandiflora</i>	Forest fever tree	01	The leaves and bark are used to brew a tea to treat malaria, and bark is chewed to treat diarrhoea, and used to treat diabetes, high blood pressure and venereal disease. In the Congo the leaf and leaf ash is used to treat wounds of teats. In Tanzania leaves are used to treat malaria and roots to treat diarrhoea.
15.	Lamiaceae	<i>1. Tectona grandis</i>	Teak	02	The various parts of the plant have been used traditionally and ethnopharmacologically for the treatment of common cold, headache, in wound healing, bronchitis scabies, as a laxative, diuretic, antidiabetic, anti-inflammatory, antioxidant, lipid disorders, constipation, and diuretic
16.	Magnoliaceae	<i>1. Magnolia grandiflora</i>	Bull bay	02	This plant has been reported to have beneficial effects on several ailments, including high blood pressure, heart disturbances, dyspnea, abdominal discomfort, muscle spasm, infertility, and epilepsy. The bioactive extracts from seeds of <i>M. grandiflora</i> are honokiol and magnolol.
17.	Miliaceae	<i>1. Azadirachta indica</i>	Neem	13	Neem whole plant is extensively used in Ayurvedic System Medicine for various skin disorders and diabetes. Nature has served this plant with various organic Compounds that are used as insecticides and pesticides.
18.	Moraceae	<i>1. Ficus religiosa</i>	Weeping fig	01	its wide variety of chemical constituents, its use in traditional medicine as remedies for many health problems, and its biological activities. The plant has been used traditionally to treat various ailments such as gastric problems, inflammation, and cancer. Reports on the biological activities of the plant are mainly on its crude extracts which have been proven to possess many biological activities. Some of the most interesting therapeutic effects include anticancer, hepatoprotective, hypoglycemic, hypolipidemic,

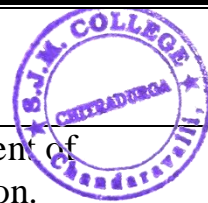


					and antimicrobial activities.
		2. <i>Ficus benghalensis</i>	Banyan tree	03	Banyan is used for the treatment and management of diarrhoea, dysentery, leucorrhoea, piles, gum and teeth disorders, lower back and rheumatic pain, female infertility, ear problems, skin and hair woes, nasal troubles, nausea and diabetes.
		3. <i>Ficus benjamina</i>	Java fig	01	The plant is well known due to its medicinal potential. Its latex and some fruit extracts are used by indigenous communities to treat skin disorders, inflammation, piles, vomiting, leprosy, malaria, nose-diseases and cancer besides the use as a general tonic.
		4. <i>Ficus carica</i>	Fig plant	01	carica are used in native medicinal system in different disorders such as gastrointestinal (colic, indigestion, loss of appetite, and diarrhea), respiratory (sore throats, cough, and bronchial problems), inflammatory, and cardiovascular disorders [32, 33]. Fruits of <i>F. carica</i> can be eaten fresh or dried or used as jam.
		5. <i>Ficus citrifolia</i>	Wild banyan tree	01	<i>Ficus citrifolia</i> is used in the Lucayan Archipelago to treat cancer, gastrointestinal problems (constipation, worms), circulatory issues (heart ailments), dermatological matters, and pain (tooth aches).
		6. <i>Ficus religiosa</i>	Sacred fig	02	<i>Ficus religiosa</i> (L.), commonly known as peepal belonging to the family Moraceae, is used traditionally as antiulcer, antibacterial, antidiabetic, in the treatment of gonorrhoea and skin diseases.
19.	Moringaceae	1. <i>Moringa oleifera</i>	Drumstick tree	01	<i>Moringa oleifera</i> plays an important role in protecting the liver from damage, oxidation and toxicity due to the high concentrations of polyphenols in its leaves and flowers. <i>Moringa oleifera</i> oil can also restore liver enzymes to normal levels, reducing oxidative stress and increasing protein content in the liver.
20.	Myrtaceae	1. <i>Eucalyptus</i>	Gum tree	06	Eucalyptus ointments are also used on the nose and chest to relieve congestion. Eucalyptus oil

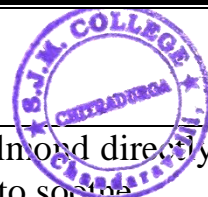
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		<i>globulus</i>			helps loosen phlegm, so many people breathe in eucalyptus steam to help treat bronchitis, coughs, and the flu.
		<i>2.Lophostemon confertus</i>	Vinegar tree	01	It is useful for urban plantings as it is resistant to pollution, disease, pests, and drought. Vinegartree is an important food source for the larval stages of some butterflies.
		<i>3.Lophostemon suvadeus</i>	Swamp box	11	Formerly used as wharf piles particularly with the bark still attached.
		<i>4.Psidium guajava</i>	Common guava	03	Psidium guajava has been used in traditional medicine by many cultures throughout Central America, the Caribbean, Africa, and Asia. It is used for inflammation, diabetes, hypertension, caries, wounds, pain relief, fever, diarrhea, rheumatism, lung diseases, and ulcers.
		<i>5.Syzygium cumini</i>	Malabar plum	04	The bark is acrid, sweet, digestive, astringent to the bowels, anthelmintic and used for the treatment of sore throat, bronchitis, asthma, thirst, biliousness, dysentery and ulcers. It is also a good blood purifier.
21.	Nyssaceae	<i>1.Nysa sylvatica</i>	Black tupelo	01	<i>Nysa sylvatica</i> is a species commonly known as the blackgum tree. The bark of this tree was used to treat fevers, cancer, gonorrhoea, wounds, urinary tract infections, and intestinal worms.
22.	Passifloraceae	<i>1.Passiflora incarnata</i>	Purple passion flower	01	The passionflower is also used as a remedy for burns, diarrhea, painful menstruation, hemorrhoids, in neurotic disorders, insomnia, to treat morphine dependence, and can be helpful in convulsions or neuralgia, too. <i>Passiflora incarnata</i> is a source of alkaloids, phenolic compounds, flavonoid, and cyanogenic glycosides.
23.	Phyllanthaceae	<i>1.Phyllanthus emblic</i>	The Indian gooseber	01	All parts of the plant are used for medicinal purposes, especially the fruit, which has been used in Ayurveda as a potent rasayana and in



		<i>a</i>	ry		traditional medicine for the treatment of diarrhea, jaundice, and inflammation.
24.	Phytolocaceae	<i>1. Phytolacca dioica</i>	Pokeberry tree	01	The fruit has been used as a human emetic and purgative; an infusion of the leaves also acts as a purgative.
25.	Poaceae	<i>1. Dendrocalamus giganteus</i>	Giant bamboo	03	<i>Dendrocalamus giganteus</i> is very useful for construction, boat mast, bamboo house, water pipes, furniture, paper production and various other uses. While young shoots are used as a vegetable source, the culm sheaths are used to make hats.
26.	Proteaceae	<i>1. Grevillea robusta</i>	Silky oak	01	Before the advent of aluminium, <i>Grevillea robusta</i> timber was widely used for external window joinery, as it is resistant to wood rot. It has been used in the manufacture of furniture, cabinetry, and fences.
		<i>2. Leucadendron argenteum</i>	Silver tree	01	<i>Leucadendron argenteum</i> is widely cultivated as an ornamental garden specimen. Its beautiful silver foliage is used in floristry and lasts well in the vase. The leaves have also long been collected, pressed and dried for decoration or as a souvenir.
27.	Rubeaceae	<i>1. Jasmine plant</i>	Simply jasmine	01	Jasmine is used on the skin to reduce the amount of breast milk, for skin diseases, and to speed up wound healing. Jasmine is inhaled to improve mood, reduce stress, and reduce food cravings. In foods, jasmine is used to flavor beverages, frozen dairy desserts, candy, baked goods, gelatins, and puddings.
		<i>2. Chin esa ixora</i>	Jungle flame	01	<i>Ixora Chinensis</i> can be used for hypertension. Additionally, it is helpful for the bone marrow. The plant is used to treat abscesses, wounds, rheumatism, and bruises. Further, <i>Ixora Chinensis</i> can be utilised as a resolvent and anodyne.
28.	Rosaceae	<i>1. Prunus amygdalus</i>	Almond	07	Sweet almond oil, prepared by pressing the kernels, is used to make medicine. Sweet almond is used as a mild laxative, and as a remedy for cancer of the bladder, breast, mouth, spleen, and



					uterus. Some people apply sweet almond directly to the skin to soften chapped skin, to soothe mucous membranes, and to kill germs.
29.	Rutaceae	1. <i>Aegle marmelos</i>	Bilwa/bael	01	The leaves are most effective in treating fever, nausea, vomiting, swellings, dysentery, dyspepsia, seminal weakness, and intermittent fever. The roots of bael are thought to be effective in treating urinary problems, preventing heart palpitations, and curing fevers.
		2. <i>Citrus limon</i>	Lemon	01	limon, known since ancient times, has nowadays been supported by numerous scientific studies. Other uses for lemon juice, known from traditional medicine, include treatment of high blood pressure, the common cold, and irregular menstruation. Moreover, the essential oil of C. limon is a known remedy for coughs
		3. <i>Murraya koenigii</i>	Curry leaf tree	02	They are used as antihelminthics, analgesics, digestives, and appetizers in Indian cookery. The green leaves of M. koenigii are used in treating piles, inflammation, itching, fresh cuts, dysentery, bruises, and edema. The roots are purgative to some extent.
30.	Simaroubaeae	1. <i>Simarouba glauca</i>	Paradise tree	02	The wood is generally insect resistant and is used in the preparation of quality furniture, toys, matches, and as pulp (in paper making). It also can be used for industrial purposes in the manufacture of biofuel, soaps, detergents, lubricants, varnishes, cosmetics, and pharmaceuticals.
		2. <i>Ailanthus altissima</i>	Tree of heaven	08	used in traditional medicines and homeopathy for the treatment of various disorders including gastrointestinal, respiratory, cardiovascular, neurological, and peripheral disorders.
31.	Verbenaceae	1. <i>Duranta repens</i>	Duranta	100	The extracts from D. repens had antifeedant and insecticide properties against the larvae of Culex pipiens and Spodoptera littoralis and the adults of Musca domestica.
32.	Grossulariaceae	1. <i>Ribes uva</i>	European	01	The leaves have been used in the treatment of gravel[4]. An infusion taken before the monthly



e	<i>crispa</i>	goosberry	periods is said to be a useful tonic for growing girls[4]. The leaves contain tannin and have been used as an astringent to treat dysentery and wounds
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Plant Auditing by Staff and students



SUGGESTIONS AND RECOMMENDATIONS BY THE GREEN AUDIT COMMITTEE

I. Water Conservation

- The water sources are safe in terms of contamination but try to avoid the wastage of water near the drinking unit.
- Rain water harvesting tank can satisfy the need of laboratory.
- The rain water can also be used as source for drinking water.
- There should be a proper monitoring of Consumption pattern in the campus.

II Green campus

- It is recommended to plant more indigenous fruit yielding /medicinal plants inside the campus.

III. Waste management

- Steps to be taken 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 plastic free campus.
- Leaf litter from wet campus can be much effectively used for aerobic / Vermicomposting, So that the composted material can also be good manure.
- The Students are taking back the food waste as per the zero waste management strategy of the college. It helped in reducing consumption of water for washing. Although a good practice of managing their own waste

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(from lunch box) instead of carrying them back home they can be trained in operating the compost yard by using their Lunch time waste to produce good organic manure.

• **COLLEGE LEVEL COMMITTEE FOR GREEN AUDIT**

SL.NO	NAME OF THE STAFF MEMBER	DEPARTMENT	COMMITTEE
01.	Dr. K.C RAMESH	PRINCIPAL	CHAIRMAN
02.	Dr. R.V HEGADAL	IQAC CO-ORDINATOR	MEMBER
03.	Prof. C.N VENKATESH	HOD. ZOOLOGY	CO-ORDINATOR
04.	Prof. N CHANDAMMA	HOD. BOTANY	MEMBER
05.	Prof. L SRINIVASA	HOD. PHYSICS	MEMBER
06.	Prof. H.M MANJUNATH	HOD. CHEMISTRY	MEMBER
07.	Prof. V.S NALINI	HOD. MATHEMATICS	MEMBER
08.	HEENA KOUSER.M	LECTURER IN BOTANY	MEMBER
09.	ARPITHA M.P	LECTURER IN BOTANY	MEMBER
10.	TEJAS KUMAR ACHAAR .N	LECTURER IN BOTANY	MEMBER
11.	TIPANNA .N	SUPERINTENDENT	MEMBER

STUDENT LIST



SL.NO	STUDENT NAME
01	AYESHA
02	AFSANA BANU
03	AISHWARYA R
04	AMOGHA T
05	ARUN S
06	ASHIYA BANU
07	AYESHA SIDDIQUA G H/E
08	CHADRU NAIK
09	FIRDOSE KHANUM
10	GURUKIRAN S K
11	HAJIRA S
12	HALIMA SADIYA
13	HASEEBA NAZ
14	HUZAIFA BANU
15	K R SANDEEP
16	KANIMESH S
17	KAVYA M J
18	KAVYA N
19	MANASA G P
20	MEGHA T M
21	MOHAMMED MUSTAFA
22	NANDEESH KUMAR J M
23	NANDITHA N
24	NANJUNATHA J
25	NEHA TWASEEN
26	OBALESH B
27	POOJA C S
28	PRAVEEN R
29	RASHMITHA N
30	RAVITEJA L U
31	SHRAVANI M P
32	VENKATESHA G
33	YASHWANTH N
34	ZOYA HASHMI

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