MAR THOMA COLLEGE, TIRUVALLA

Kuttapuzha P.O., Thiruvalla, Pathanamthitta (Dist.), Kerala – 689 103
Ph: +91 469 2630342
E-mail: mtcofficetvla@gmail.com
www.marthomacollege.org

(Affiliated to Mahatma Gandhi University, Kottayam)

ENVIRONMENTAL AUDIT REPORT

INTERNAL QUALITY ASSURANCE CELL

2021 – 22

KSCSTEJNTBGRI

കെ എസ് സി എസ് ടി ഇ - ജവഹർലാൽ നെഹ്റു ട്രോപ്പിക്കൽ ബൊട്ടാണിക് ഗാർഡൻ ആന്റ് റിസർച്ച് ഇൻസ്റ്റിറ്റ്യൂട്ട്
KSCSTE - Jawaharlal Nehru Tropical Botanic Garden and Research Institute
An institution of Kerala State Council for Science, Technology & Environment
National Centre of Excellence

Dr. Rajendraprasad M
Principal Scientist

JNTBGRI/PS&ES/RP/001 23-05-2023

Green Audit Certificate

This is to certify that **Mar Thoma College, Thiruvalla, Pathanamthitta, Kerala** has successfully carried out and completed the **Green Audit Report** for the academic year 2021–2022, under the supervision of **Internal Quality Assessment Cell (IQAC)**. This investigation has resulted with remarkable output, which would be a useful baseline data for biodiversity, environmental and energy management of the campus. I appreciate the sincere effort made by the Principal and IQAC team to bring out a detailed Green Audit Report. The college is also succeeded in maintain an eco-friendly campus. I wish all the success for future endeavors with regard to integrated approach for Biodiversity Conservation, Environment Protection, Green Energy Production, Carbon Neutrality Efforts and Sustainable Development of the institution.

23/05/23

Dr Rajendraprasad.M
Principal Scientist
Kerala State Council for Science, Technology and Environment- Jawaharlal Nehru Tropical Botanic Garden and Research Institute
Karimancode.P.O, Palode Thiruvananthapuram
KERALA-695 562
e-mail:rajendraprasadvkm@gmail.com

JNTBGRI-PALODE, THIRUVANANTHAPURAM
JAWAHARLAL NEHRU TROPICAL BOTANIC GARDEN & RESEARCH INSTITUTE
KSCSTE

Executive Summary

The nation's growth begins in its educational institutions, where the ecology is the most important factor in the development of the environment. The clean and healthy environment supports effective learning and provides the conditions for learning. At present, educational institutions are becoming more sensitive to environmental factors and more concepts are being introduced to be environmentally friendly. In environmental protection on campus, many educational institutions use different perspectives to solve their environmental problems, such as energy efficiency, waste recycling, water reduction, water harvesting, etc. They also create many harmful effects on the environment.

Environmental auditing is the process by which environmental performance is compared to environmental goals and policies. Green Audit is defined as a formal study on the impact of college on the environment. As part of this practice, an internal environmental audit (green audit) is conducted to assess the real campus scenario. Green audits can be a useful tool for universities and colleges to decide how and where to use most water or energy resources; the college can then think about how to make changes and savings. It can also be used to determine the type and quantity of waste that can be used to improve the project for recycling plan or waste minimization.

Green auditing and the application of mitigation measures, is a win-win situation for all college students and the community. It can also create health awareness and promote environmental awareness, values and ethics. It provides staff and students with a better understanding of the impact of Green Campus. Green Audit Committee to enhance savings by reducing the use of natural resources. This gives the opportunity to develop property and personal and social responsibility of students and teachers. If the query itself is a natural and necessary consequence of the high quality of education, it is also noted that institutional self-inquiry is the natural and deterministic outcome of the quality of educational institutions. It is therefore necessary for the college to assess its contribution towards a sustainable future.

In Mar Thoma College, Tiruvalla green auditing process included initial interviews with the stake holders to examine policies, activities and records, as well as cooperation in the implementation of staff and students in order to mitigate. Interviews with staff and students, collection of information through the questionnaire, review of records, observing practices and observable results.

In addition, this approach ensures that management and staff are active participants in the green process in the college. The database for the Mar Toma College, Tiruvalla, will be a useful tool for campus ecology, resource management and planning of future projects and documents for the implementation of sustainable development of the Institution. The current data will allow the college to compare its programs and activities with those of similar institutions, and identify areas for improvement and priorities for future projects.

CHAPTER – 1

1. About the College

The Mar Thoma Syrian Church of Malabar, one of the oldest Syrian Christian Churches founded by St. Thomas in India, entered the realm of higher education by establishing a College in Tiruvalla, the Headquarters of the Church. The Church, which had pioneered many social and humanitarian projects, was thus responding to a dire need of the society in the field of higher education by founding Mar Thoma College in 1952. The college grew fast, even beyond the dreams of founding fathers and now it is one of the most reputed Colleges in the state and is a glowing example of the vision of the Church and its commitment to the needs of the society.

From a small beginning with 250 students and 12 teachers, the college has grown into a premier educational institution with over 1500 students on the rolls, over 80 members on the teaching staff and about 45 members on the non-teaching staff. The college presently offers 12 under graduate and 11 post graduate programmes and several non-formal courses. The College also has seven bonafide research departments offering full time research facility leading to Ph.D.

The College, accredited by the National Assessment and Accreditation Council (NAAC) in 1998, the first college to do so in Kerala, attained the unique distinction on being the first re-accredited college with A-Grade in Mahatma Gandhi University. The College is affiliated to Mahatma Gandhi University, Kottayam and comes under the 2(f) & 12(b) category of the University Grants Commission.

1.1. Mission & Vision

Mar Thoma College is committed to empowering its students and staff to attain the full human potential as revealed in the person and teaching of Jesus Christ.

1.2. Goals and Objectives

The College stands for seeking and cultivating new knowledge, promoting research and developing professional competence in an atmosphere of academic freedom. The institution seeks to provide training to meet human power requirements of the changing times. The objective of the College is to develop leadership qualities, creativity and physical and mental fitness with a concern for environment, gender

justice and human rights so as to contribute to the building up of the nation and international harmony.

Mar Thoma College, Tiruvalla has made its indelible mark as a committed Christian institution of good standard in the field of higher education of Kerala all through the six decades of its existence. In spite of financial constraints all through its development, the College was able to maintain a high standard in all the fields of its activities and set an example well acknowledged by all. We have also been able to give due importance to the personality development and character formation of our students, majority of whom are women. More than 60000 students have blossomed out to the vast world from this institution so far.

Thousands of our alumni are working in the Gulf regions and in many other parts of the world. Mar Thoma College has always been an institution with a difference, which nourished the idea of a family concept. Academic excellence always received top priority, but value education was no less important. The tasks ahead are many and more challenging. With the dawn of the new era, quality education has become costlier and unaffordable for many. We stand committed to our firm resolve to bring the benefits of higher education within the reach of the less fortunate segments in the society. The College community has passionately attempted to adhere to the motto of the institution: "**Education par Excellence and Educated for the Society"**.

1.3. BASIC INFORMATION

Name of the institution	Mar Thoma College, Thiruvalla
Year of establishment	1952
Campus area	14.5 acres
Location	The College is situated at Kuttapuzha on the Tiruvalla – Mallappally road about 2 kms from Tiruvalla.
District and state in which the campus is situated	Pathanamthitta, Kerala
Name of local body in which the campus is situated	Thiruvalla Municipality
Coordinates	**Latitude:** 9° 24' 03.8" N **Longitude:** 78° 35' 03.00" E
Average height of campus above sea level	64 ft
Access	***By Bus*** From Tiruvalla, private buses are operated frequently via Kuttapuzha / Kizhakkenmuthoor to Mallapally / Changanassery / Kottayam. Get down at Kuttapuzha or Kizhakkenmuthoor (Minimum fare from Tiruvalla) and the college is at a walking distance. Auto rickshaws are available from both junctions at minimum fare. ***By Train*** Tiruvalla (Station Code: TRVL) is the only railway station in the Pathanamthitta district and most major trains have at least a one minute stop at the station. The college is at a distance of 1.2 kms from the Railway station and can be reached via Auto rickshaws. ***By Air*** Nearby Airports are 1. International Airport, Nedumbassery, Kerala. 2. International Airport, Trivandrum, Kerala.
No. of programmes of study	Undergraduate – 12 Post graduate – 07 Ph.D. – 7
Total Number of students	1863
Total number of teaching staff	73 (permenant) 22 (Guest)
Total number of non-teaching staff	34(permenant): 5 (Temporary)

Library

From a modest beginning right from the inception of the college, the Library has grown in space and collection in the tune of more than 65000 documents and subscribes to about 88 academic journals(Print). The library has now in addition to books and journals, a good collection of Microfische, CDROMs and Cassettes. A number of news magazines and dailies are also available for browsing. Bound Volumes of THE HINDU Newspaper from 1958 onwards, bound volumes of THE TIME, THE NATIONAL GEOGRAPHIC and other academic journals attract researchers & general public as well. The Library has also started an Archives Section with a modest collection of archival materials. On an average about 40000 books and about 25000 periodicals are issued every year, the references inside the library notwithstanding. A **Career Corner** functions in the library with the aim of providing useful hints in Career / Course Selection, Personality Development, Communication Skills etc. An **E-library & Learning Centre** housing the UGC-NRC(Network Resource Centre), CD-ROM section, and access to programes of UGC –INFONET/ INFLIBNET also functions in the library. The e-library section is now a beneficiary of N-LIST (National Library and Information Services Infrastructure for Scholarly Content) providing access to more than 6000 electronic journals (with back volumes) and 97000 electronic books.

Language Lab

A Language Laboratory, attached to English Department functions effectively. Both students and teachers are given training in phonetics in the lab. At present there are 18 terminals for students, apart from the teacher console.

Media Centre

The Centre is an outcome of the realization that there has to be an extended and more efficient utilization of Audio-Visual aids in the promotion of research and learning. The Centre makes available a range of educational equipment and devices for faster and more effective transmission of knowledge. The students make the best use of the Media Centre in their leisure hours. The facilities of the Centre include, slide projector, microfiche reader, overhead projector, 16mm projector, computer and LCD Projector.

Mar Thoma College Institute of Computer Sciences

The Mar Thoma College Institute of Computer Sciences, with an up-to-date infrastructure, functions in the premises of Mar Thoma College with the aim of imparting first grade computer education and computer literacy for all. Various courses like PGDCA (both regular and part time), Computer Fundamentals, Operating Systems,

Basic and Cobol Programming, Systems and Analysis Design, Programming, FoxPro, Visual Basic, RDBMS, Oracle, Object oriented programming in C++, Web designing etc. are offered by the institute to suit the needs and convenience of both college and other regular students. The centre also helps the students in the preparation of projects and other works connected with their curricular needs.

Hostel

The girl students are provided neat and safe residential accommodation at two well equipped hostels in the vicinity of the college.

Sports and Games facilities

The College has a 110 meters x 80 metre Track & Field, Basket Ball Court (33 metre x 20 meetre), Volley BallCourt (20 metre x 12 meetre), Shuttle Badminton Court (44ft x 20ft), Football Field, Hockey Field (80 metre x 50 meetre), Fitness Centre (20ft x 15ft, Cricket Pitch and Net Practice (12ft x 20ft), etc.

Green House, Orchidarium, Vidhyavanam, Shanthivanam, Butterflypark and Herbal Garden

The botanical garden has a collection of rare and endangered herbs, shrubs, plants and trees. The Botany department has a collection of indigenous and rare herbs and medicinal plants.

Other facilities

A branch of the Indian Bank facility functions adjacent to the college campus. The college is equipped with a free wifi internet connection for communication and IT purposes.

CHAPTER – 2

Pre-Audit Stage

A pre-audit meeting provided an opportunity to reinforce the scope and objectives of the audit and discussions were held on the practicalitiesassociated with the audit. This meeting is an important prerequisite for thegreen audit because it is the first opportunity to meet the auditee and deal withany concerns. The audit protocol andaudit plan was handed over at this meeting and discussed in advance of theaudit itself. The pre-audit meeting was conductedsuccessfully and necessary documents were collected directly from the stakeholders of collegebefore the initiation of the audit processes. Actual planning of audit processeswere discussed in the pre-audit meeting. Audit team was also selected in thismeeting with the help of staff and the college management. The audit protocoland audit plan were handed over at this meeting and discussed in advance ofthe audit itself. The audit team worked together, under the leadership of thelead auditor, to ensure completion within the brief and scope of the audit.

2.1. Management's Commitment

The Management of the college has shown the commitment towards the greenauditing during the pre-audit meeting. They were ready to encourage all greenactivities. It was decided to promote all activities that are environment friendlysuch as awareness programs on the environment, campus farming, plantingmore trees on the campus etc., after the green auditing. The management ofthe college was willing to formulate policies based on green auditing report.

2.2. Scope and Goals of Green Auditing

A clean and healthy environment for effective learning and help ensure favorable conditions for learning. There are various efforts throughout the world with regard to the issue of environmental education. Green Audit is the most efficient and environmentally sound management of environmental issues. This is the kind of professional help, which belongs to every human being, which are part of the financial, economic, social, environmental factor. It is necessary to make audit a green college campus because students become aware of the advantages of the green box to save the planet and become a good citizen of our country. In this way, it becomes necessary to Green verification at the college level. Indigenized very simple system was created to monitor the environmental performance of the Mar Thoma College, Tiruvalla. As for the number of questions will be answered on a regular basis. This innovative system is

easy to use and completely voluntary. To achieve this goal, must now set examples of community, environment and training for young students.

2.3. Benefits of the Green Auditing

- Benchmarking for environmental protection initiatives
- Developing an environmental ethic and value systems in youngsters.
- Development of ownership, personal and social responsibility for the College and its environment
- Empower the organizations to frame a better environmental performance
- Enhance the alertness for environmental guidelines and duties
- Enhancement of college profile
- Financial savings through a reduction in resource use
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the college.
- Impart environmental education through systematic environmental management approach and Improving environmental standards
- More efficient resource management
- Point out the prevailing and forthcoming complications
- Recognize the cost saving methods through waste minimizing and managing
- To create a green campus
- To create plastic free campus and evolve health consciousness among the stakeholders
- To enable waste management through reduction of waste generation, solid-waste and water recycling
- Authenticate conformity with the implemented laws
- To provide basis for improved sustainability

2.4. Target Areas of Green Auditing

Environmental accounting is part of a resource management process. Although they are single event, the real value of green audits the fact that they occur at defined intervals, and their results can illustrate improvement or change over time. Eco concept campus focuses mainly on efficient use of energy and water, to reduce waste or contamination and also economic efficiency. All these indicators are considered in the process of "green audit of educational institute." Eco-campus focuses on reducing the contribution to emissions, providing a cost-effective and reliable supply of energy, encourage and strengthen the use of energy conservation, promote personal action,

reduce the department's energy and water consumption , reduce waste sent to landfills, and integrating environmental considerations into all contracts and services are considered to have significant environmental consequences. Target areas included in this green audit is water, energy, waste, green campus and carbon emissions.

2.4.1. Auditing for Water Management

Water is a natural resource; all living things depend on water. While freely available in many natural environments, in human settlements potable (drinking) water is less readily available. We must use water wisely to ensure that drinking water is available for everyone, now and in the future. A small drop from a leaky tap can waste more than 180 liters of water for one day; there is plenty of water to waste - enough to flush the toilet eight times! Aquifer depletion and water contamination occurs at unprecedented rates. It is therefore important that any environmentally responsible institution should examine their water use practices. Water audit is conducted for evaluation of plant raw water intake and determination of water treatment plants and reuse. Competent auditors examine the relevant method can be adopted and implemented to balance the demand and supply of water. It is therefore important that any environmentally responsible institution examine their water use practices.

2.4.2. Auditing for Energy Management

Energy can not be seen, but we know it is there because we can see the effects in the form of heat, light and power. This indicator takes energy, energy sources, energy monitoring, lighting, appliances and vehicles. Energy use is clearly an important part of campus sustainability and thus requires no explanation for inclusion in the assessment. An old incandescent bulb uses about 60 W to 100 W, while an energy efficient light emitting diode (LED) uses only less than 10 W. energy analysis discloses conservation and methods for reducing the consumption related to environmental degradation. It is therefore important that any environmentally responsible institution examine its energy practice.

2.4.3. Auditing for Waste Management

Pollution from waste are aesthetically unpleasing and results in large amounts of garbage in our communities that can lead to health problems. Plastic bags and discarded ropes and strings can be very dangerous for birds and other animals. This indicator solves waste production and disposal, waste plastic, waste paper, food waste, and recycling. There are two categories of solid wastes: general waste and hazardous waste. General waste includes what is commonly thrown into homes and schools like garbage, paper, cans and glass bottles. Hazardous waste is waste that is likely to be a

threat to health or the environment as cleaning chemicals and gasoline. Unscientific landfills may contain harmful impurities which leach into the soil and water supplies and produce greenhouse gases contributing to global climate change. Furthermore, solid waste often includes waste material resources that could be channeled to better service through recycling, repair and reuse. Thus, minimization of waste are essential for sustainable college. Auditor diagnoses the current waste management policy and suggest the best way to combat the problems.It is therefore important that any environmentally responsible institution examine their waste management practices.

2.4.4. Auditing for Green Campus Management

Unfortunately, biodiversity is facing serious threats from habitat loss,pollution, over consumption and invasive species. Species are disappearing atan alarming rate and each loss affects nature's delicate balance and ourquality of life. Without this variability in the living world, ecological systemsand functions would break down, with detrimental consequences for all formsof life, including human beings. Newly planted and existing trees decrease theamount of carbon dioxide in the atmosphere. Trees play an importantecological role within the urban environment, as well as support improvedpublic health and provide aesthetic benefits to cities. In one year, a singlemature tree will absorb up to 48 pounds of carbon dioxide from theatmosphere, and release it as oxygen. The amount of oxygen that a singletree produces is enough to provide one day's supply of oxygen for people. Sowhile you are busy studying and working on earning those good grades, all thetrees on campus are also working hard to make the air cleaner for us. Treeson our campus impact our mental health as well; studies have shown thattrees greatly reduce stress, which a huge deal is considering many studentsare under some amount of stress.

2.4.5. Auditing for Carbon Footprint

Commutation of stakeholders has an impact on the environment through theemission of greenhouse gases into the atmosphere consequent to burning offossil fuels (such as petrol). The most common greenhouse gases are carbondioxide, water vapour, methane, nitrous oxide and ozone. Of all thegreenhouse gases, carbon dioxide is the most prominent greenhouse gas,comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxidegas into the Earth's atmosphere through human activities is commonly knownas carbon emissions.An important aspect of doing an audit is to be able to measure your impact sothat we can determine better ways to manage the impact. In addition to thewater, waste, energy and biodiversity audits we can also determine

what ourcarbon footprint is, based on the amount of carbon emissions created. Oneaspect is to consider the distance and method traveled between home andcollege every day. It undertakes the measure of bulk of carbon dioxideequivalents exhaled by the organization through which the carbon accountingis done. It is necessary to know how much the organization is contributingtowards sustainable development. It is therefore essential that anyenvironmentally responsible institution examine its carbon footprint.

2.5. Methodology of Green Auditing

The purpose of the audit was to ensure that the practices followed in thecampus are in accordance with the Green Policy adopted by the institution. Thecriteria, methods and recommendations used in the audit were based on theidentified risks. The methodology includes: preparation and filling up ofquestionnaire, physical inspection of the campus, observation and review of thedocument, interviewing responsible persons and data analysis, measurementsand recommendations. The methodology adopted for this audit was a threestep process comprising of:

2.5.1. Data Collection – In preliminary data collection phase, exhaustive datacollection was performed using different tools such as observation, surveycommunicating with responsible persons and measurements.

Following steps were taken for data collection:

- The team went to each department, centres, Library, canteen etc.
- Data about the general information was collected by observation andinterview.
- The power consumption of appliances was recorded by taking an averagevalue in some cases.

2.5.2. **Data Analysis -** Detailed analysis of data collected include: calculation ofenergy consumption, analysis of latest electricity bill of the campus,understanding the tariff plan provided by the Kerala State Electricity Board(KSEB). Data related to water usages were also analyzed using appropriatemethodology.

2.5.3. Recommendation – On the basis of results of data analysis andobservations, some steps for reducing power and water consumption wererecommended. Proper treatments for waste were also suggested. Use of fossilfuels has to be reduced for the sake of community health.

The above target areas particular to the college was evaluated throughquestionnaire circulated among the students for data collection. Fivecategories of questionnaires were distributed. The formats of these are givenbelow.

2.5.4. Survey Forms

I

Green Auditing Mar Thoma College, Tiruvalla

Auditing for Water Management

1.	List uses of water in your college.	
2.	What are the sources of water in your college?	
3.	How many wells are there in your college?	
4.	No. of motors used for pumping water from each well?	
5.	What is the total horse power of each motor?	
6.	What is the depth of each well?	
7.	What is the present depth of water in each well?	
8.	How does your college store water?	
9.	Quantity of water stored in your overhead water tank? (in liters)	
10.	Quantity of water pumped every day? (in liters)	
11.	If there is water wastage, specify why.	
12.	How can the wastage be prevented / stopped?	
13.	Where does waste water come from?	
14.	Where does the waste water go?	
15.	What are the uses of waste water in your college?	
16.	What happens to the water used in your labs? Whether it gets mixed with ground water?	
17.	Is there any treatment for the lab water?	
18.	Whether green chemistry methods are practiced in your labs?	
19.	Write down four ways that could reduce the amount of water used in your college.	
20.	No. of water coolers. Amount of water used per day? (in liters)	
21.	No. of water taps. Amount of water used per day?	
22.	No. of bath rooms in staff rooms, common, hostels – amount of water used per day?	
23.	No. of toilet, urinals. Amount of water used per day?	
24.	No. of water taps in the canteen. Amount of water used per day?	
25.	Amount of water used per day for garden use.	
26.	No. of water taps in laboratories. Amount of water used per day in	

	each lab?	
27.	Total use of water in each hostel?	
28.	At the end of the period, compile a table to show how many litres of water have been used in the college for each purpose	
29.	Is there any water used for agricultural purposes?	
30.	Does your college harvest rain water?	
31.	If yes, how many rain water harvesting units are there? (Approx. amount)	
32.	How many of the taps are leaky? Amount of water lost per day?	
33.	Are there signs reminding people to turn off the water? Yes / No	
34.	Is there any waterless toilets? _____	
35.	How many water fountains are there? _____	
36.	How many water fountains are leaky? _____	
37.	Is drip irrigation used to water plants outside? YES/NO	
38.	How often is the garden watered?	
39.	Quantity of water used to watering the ground?	
40.	Quantity of water used for bus cleaning? (liters per day)	
41.	Amount of water for other uses? (items not mentioned above)	
42.	Area of the college land without tree/building canopy.	
43.	Is there any water management plan in the college?	

II

Green Auditing Mar Thoma College, Tiruvalla

Auditing for EnergyManagement

1.	List ways that you use energy in your college.	
2.	Electricity bill amount for the last year	
3.	Amount paid for LPG cylinders for last one year	
4.	Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?	
5.	Are there any energy saving methods employed in your college? If yes, please specify. If no, suggest some.	
6.	How much money does your college spend on energy such as electricity, gas, firewood, etc. in a month.	
7.	How many CFL bulbs has your college installed? Mention use	
8.	Energy used by each bulb per month? (for example- 60 watt bulb x 4hours x number of bulbs = kwh)	
9.	How many LED bulbs are used in your college? Mention the use (Hours used/day for how many days in a month)	
10.	Energy used by each bulb per month? (kwh).	
11.	How many incandescent (tungsten) bulbs have your college installed? Mentions use (Hours used/day for how many days in a month)	
12.	Energy used by each bulb per month? (kwh).	
13.	How many fans are installed in your college? Mention use (Hours used/day for how many days in a month)	
14.	Energy used by each fan per month? (kwh)	
15.	How many air conditioners are installed in your college? Mention use (Hours used/day, for how many days in a month)	
16.	Energy used by each air conditioner per month? (kwh)	
17.	How many electrical equipments including weighing balance are installed your college? Mention the use (Hours used/day for how many days in a month)	

18.	Energy used by each electrical equipment per month? (kwh)	
19.	How many computers are there in your college? Mention the use (Hours used/day for how many days in a month)	
20.	Energy used by each computer per month? (kwh)	
21.	How many photocopiers are installed by your college? Mention use (Hours used/day for how many days in a month).	
22.	How many cooling apparatus are in installed in your college? Mention use(Hours used/day for how many days in a month)	
23.	Energy used by each cooling apparatus per month? (kwh) Mention use (Hours used/day for how many days in a month)	
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)	
25.	Energy used by each inverter per month? (kwh)	
26.	How many electrical equipment are used in different labs of your college? Mention the use (Hours used/day for how many days in a month)	
27.	Energy used by each equipment per month? (kwh)	
28.	How many heaters are used in the canteen of your college? Mention the use (Hours used/day for how many days in a month)	
29.	Energy used by each heater per month? (kwh)	
30.	No of street lights in your college?	
31.	Energy used by each street light per month? (kwh)	
32.	No of TV in your college and hostels?	
33.	Energy used by each TV per month? (kwh)	
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)	
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.	

36.	Do you run “switch off” drills at college?	
37.	Are your computers and other equipment put on power-saving mode?	
38.	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby mode most of the time? If yes, how many hours?	
39.	What are the energy conservation methods adapted by your college?	
40.	How many boards displayed for saving energy awareness?	
41.	How much ash is collected after burning fire wood per day in the canteen?	
42.	Write a note on the methods/practices/adaptations by which you can reduce the energy use in your college campus in future.	

Calculation of energy for electrical appliances

Appliance	Power used in (watt)	Usage per day (hours)	Number of appliances	Average kWh per day (Watt X hours X Number X 1000)	Average kWh per month (Watt X hours X Number X 1000 x 30)
Incandescent bulb	60 watt				
CFL	18 W				
Microwave	1000W				
Stove	3000W				
Kettle	2500W				

III

Green Auditing Mar Thoma College, Tiruvalla

Auditing for Waste Management

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

No. of Students	No. of Teachers No.	Non teaching staff
Gents		
Ladies		
Total		

2. Which of the following are available in your College? Give area occupied and number

Garden area	Garbage dump (number)
Playground area	Laboratory
Kitchen	Canteen
Toilets (number)	Car/scooter shed area
Number of class rooms	Office rooms
Others (specify)	

Management of waste

3.	E-wastes- computers, electrical and electronic parts – Disposal	
4.	Plastic waste- disposal	
5.	Solid wastes	
6.	Chemical wastes	
7.	Waste water	
8.	Glass waste	
9.	Napkin incinerators	
Quantity of waste generated:-		
10.	Biodegradable (office)	kg/day
11.	Biodegradable(labs)	kg/day
12.	Canteen waste	Kg/ day
13.	Dry leaves	Kg
14.	E-waste	(Nos)

15.	Glass	
16.	Hazardous waste	gm/day
17.	Liquid waste	lit
18.	Medical waste if any	
19.	Napkins	
20.	Non biodegradable(office)	kg/day
21.	Non-biodegradable (campus)	kg/day
22.	Solid waste	(Nos)
23.	Unused equipment	(Nos)
Canteen waste		
24.	Biodegradable college canteen	kg/day
25.	Non biodegradable	kg/day

26. 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)

Municipal dump yard	
Garbage heap	
Public convenience	
Sewer line	
Stagnant water	
Open drainage	
Industry – (Mention the type)	
Bus / Railway station	
Market / Shopping complex / Public halls	

27. Does your college generate any waste? Yes / No

28. If so, what are they? How much quantity? Number or weight

E-waste		
Hazardous waste (toxic)		
Solid waste		
Dry leaves		
Canteen waste		
Liquid waste		

Glass		
Unused equipment		
Medical waste if any		
Napkins		
Others (Specify)		

29. Is there any waste treatment system in the college? Yes / No

30. Is there any treatment for toilet/urinal/sanitary napkin waste? Yes / No

31. What is the approximate quantity of waste generated per day? (inKilograms)

Office

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

Laboratories

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

Canteen/kitchen

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

32.	Whether waste is polluting ground/surface water? How?	
33.	Whether waste is polluting the air of the college? How?	
34.	How is the waste generated in the college managed? Methods	
35.	How many separate boxes do you think you would need to put into aclassroom to start a waste segregation and recycling campaign?What should be the use for each box? (Develop a colour code with reasons)	
36.	Do you use recycled paper in College?	

37.	Is there any waste wealth program practiced in the college?	
38.	How would you spread the message of recycling to others in thecommunity? Have you taken any initiatives? If yes, please specify	
39.	Can you achieve zero garbage in your college? (Reduce,Recycle, Reuse,Refuse) If yes, how?	

BIO DEGRADABLE WASTE

40.	Main sources of bio-degradable waste in the campus	
41.	Amount of bio-degradable waste generated per day	
42.	Amount of bio-degradable waste generated per capita (one year)	
43.	Methods for collection of bio-degradable waste	
44.	Measures taken for disposal of bio-degradable waste	
45.	Whether bio-degradable waste is disposed in the campus itself	
46.	Methods of disposal for bio-degradable waste inside the campus	
47.	Whether bio-degradable waste is disposed outside the campus	
48.	Methods of disposal for bio-degradable waste outside the campus	
49.	Whether recycle mechanism available for bio-degradable waste	

NON-BIODEGRADABLE WASTE

50.	Sources of non-biodegradable waste in the campus	
51.	Amount of non-biodegradable waste generated per year	
52.	Methods for collection of non-biodegradable waste	
53.	Measures taken for disposal of non-biodegradable waste	
54.	Whether any hazardous chemical or biological waste is produced?	
55.	Whether hazardous chemical and biological waste is properly disposed?	

E-WASTE

56.	Sources of e-waste in the campus	
57.	Methods for collection of e-waste	
58.	Measures taken for of disposal for e-waste	
59.	Whether e-waste is disposed in the campus itself	
60.	Whether e-waste is disposed outside the campus	
61.	Whether recycle mechanism available for e-waste	

IV

Green Auditing Mar Thoma College, Tiruvalla

Auditing for Green Management

1.	Is there a garden in your college? Area?	
2.	Do students spend time in the garden?	
3.	List the plants in the garden, with approx. numbers of each species.	
4.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	
5.	List the species planted by the students, with numbers.	
6.	Whether you have displayed scientific names of the trees in the campus?	
7.	Is there any plantations in your campus? If yes specify area and type of plantation.	
8.	Is there any vegetable garden in your college? If yes how much area?	
9.	Is there any medicinal garden in your college? If yes how much area?	
10.	What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season)	
11.	How much water is used in the vegetable garden and other gardens? (Mention the source and quantity of water used).	
12.	Who is in charge of gardens in your college?	
13.	Are you using any type of recycled water in your garden?	
14.	List the name and quantity of pesticides and fertilizers used in your gardens?	
15.	Whether you are doing organic farming in your college? How?	
16.	Do you have any composting pit in your college? If yes What are you doing with the compost generated?	
17.	What do you doing with the vegetables harvested?	
18.	Do you have any student market?	
19.	Is there any botanical garden in your campus? If yes give the details of campus flora.	
20.	Give the number and names of the medicinal plants in your	

	college campus.	
21.	Any threatened plant species planted/conserved?	
22.	Is there a nature club in your college?	
23.	Is there any arboretum in your college? If yes details of the trees planted	
24.	Is there any groves in your college? If yes details of the trees planted.	
25.	Is there any irrigation system in your college?	
26.	What is the type of vegetation in the surrounding area of the college?	
27.	What are the nature awareness programmes conducted in the campus?	
28.	What is the involvement of students in the green cover maintenance?	
29.	What is the total area of the campus under tree cover? Or under tree canopy?	
30.	Share your IDEAS for further improvement of green cover	

V

Green Auditing Mar Thoma College, Tiruvalla

Auditing for Carbon Foot Print

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

No. of Students	No. of Teachers	No. of Non teaching staff
Gents		
Ladies		
Total		

2.	Total Number of vehicles used by the stakeholders of the college (per day)	
3.	No. of cycles used	
4.	No. of two wheelers used	
5.	No. of cars used	
6.	No. persons using common (public) transportation	
7.	Number of visitors with vehicles per day	
8.	Number of generators used per day (hours)	
9.	Number of LPG cylinders used in the canteen –	
10.	Amount of fuel used per day	
11.	Amount of taxi/auto charges paid and the amount of fuel used per monthfor the transportation of vegetables and other materials to canteen	
12.	Amount of taxi/auto charges paid per month for the transportation of officegoods to the college.	
13.	Average amount of taxi/auto charges paid per month by the stakeholdersof the college.	
14.	Average distance travelled by stake holders	
15.	Expenditure for transportation per person per day	

POLLUTION

16.	Major sources of carbon foot print	
17.	Average carbon footprint per year	
18.	Does the college has enough green cover for carbon neutrality?	
19.	Percentage of staff using public transport	
20.	Percentage of students using public transport	
21.	Whether any hazardous chemicals are emitted from laboratories and other facilities?	
22.	Whether usage of air conditioning is minimized?	
23.	Number of vehicles owned by the college	
24.	Whether any major polluting industries are situated in the area?	

3.1 Student - Staff Involved in Green Auditing

General Co-Ordinator: Dr. Jacob Thomas, Asst. Professor in Botany

Common Details of Mar Thoma College, Tiruvalla: Dr. Varghese Mathew, IQAC Coordinator

1. Water Management

Faculty in Charge: Dr. Shaji Varghese, Asst. Professor in Chemistry

Students

Sl No	Name	Department / Course
1	Anisha P A	M. Sc. Analytial Chemistry
2	ArchaVijayan	M. Sc. Analytial Chemistry
3	KarthikaRajendran	M. Sc. Botany
4	Plintha Mathew S	M. Sc. Botany
5	AajaBritto	M. Sc. Microbiology
6	Arsha G Madhu	M. Sc. Microbiology
7	Athira S Ajay	M. Sc. Microbiology
8	Gopika Bose K	M. Sc. Physics
9	MeghaLeni	M. Sc. Physics
10	VarshaVenugopal	M. Sc. Physics
11	Ahalya Mohan	M. Sc. Pure Chemistry
12	Alwin Thomas Jose	M. Sc. Pure Chemistry
13	Anju Liya Joy	M. Sc. Pure Chemistry
14	Rabiya N M	M. Sc. Zoology
15	Steffi Raju	M. Sc. Zoology
16	Sivachandran C.	NCC
17	Jerrin V Kurian	NSS
18	Alisha Susanna George	NSS

2. Green Campus Management

Faculty in Charge: Dr. Shilly Elizabeth David, Asst.Professor in Zoology

Students

Sl No	Name	Department / Course
1	Christy Mathew John	M. Sc. Analytial Chemistry
2	Dyna Mary Joshy	M. Sc. Analytial Chemistry
3	Nidhisha B.S	M. Sc. Biotechnology
4	Janat Mary James	M. Sc. Botany
5	Jaquiline Mathew	M. Sc. Botany
6	Lekshmi KS	M. Sc. Microbiology
7	Padmarani S.K	M. Sc. Microbiology
8	Revathy L	M. Sc. Microbiology
9	Cherian P I	M. Sc. Physics
10	Daphne Mary John	M. Sc. Physics
11	Sruthi Thomas	M. Sc. Physics
12	Arathy S S	M. Sc. Pure Chemistry

13	ArunViswanathan	M. Sc. Pure Chemistry
14	Athira J Ajith	M. Sc. Pure Chemistry
15	Arsha Raj	M. Sc. Zoology
16	Arya G	M. Sc. Zoology
17	Amal V George	NSS
18	Anandhu TV	NSS

3. Carbon Footprint

Faculty in Charge: Dr. Hareesh, Asst. Professor, Dept. of Bioscience

Students

Sl No	Name	Department / Course
1	Hannah Abraham	M. Sc. Analytial Chemistry
2	Jasmin M John	M. Sc. Analytial Chemistry
3	ChippyUthaman	M. Sc. Biotechnology
4	Aiswarya S Madhu	M. Sc. Botany
5	Asish T Varghese	M. Sc. Botany
6	Divya V	M. Sc. Microbiology
7	Emy Elsa Alex	M. Sc. Microbiology
8	K. AiswaryaSasidharan	M. Sc. Microbiology
9	Sajan Varghese Simon	M. Sc. Physics
10	SethulakshmiSalilan	M. Sc. Physics
11	Leya Cherian	M. Sc. Pure Chemistry
12	Nishin Grace Mathew	M. Sc. Pure Chemistry
13	Rooby Ann Mathew	M. Sc. Pure Chemistry
14	Arya Mohan	M. Sc. Zoology
15	AswathyAnand	M. Sc. Zoology
16	Reuben John Sam	NCC
17	Jobin Sebastian	NCC
18	Adithya S.	NSS

4. Energy Management

Faculty in Charge: Dr. I. John Berlin, Asst. Professor in Physics

Prof. Susan Kuriakose, Asst. Professor in Botany

Students:

Sl No	Name	Department / Course
1	JerinBabu	M. Sc. Analytial Chemistry
2	Reshma Elsa Sam	M. Sc. Analytial Chemistry
3	Saron P S	M. Sc. Analytial Chemistry
4	AnuVijayan	M. Sc. Biotechnology
5	Ragendu P R	M. Sc. Botany
6	Resmi R Nair	M. Sc. Botany
7	Saradha R	M. Sc. Microbiology
8	SoniyaManoharan	M. Sc. Microbiology
9	Unnikrishnan M	M. Sc. Microbiology

10	Shiji Elvin Philip	M. Sc. Physics
11	SonaElzabath Sebastian	M. Sc. Physics
12	Celin Mariam Mathew	M. Sc. Pure Chemistry
13	GeethuSabu V	M. Sc. Pure Chemistry
14	Jomon George Joy	M. Sc. Pure Chemistry
15	Aswini S	M. Sc. Zoology
16	Dilsha Davis	M. Sc. Zoology
17	FEBA ANTONY	NSS
18	KRISHNAPRIYA K J	NCC

5. Waste Management

Faculty in Charge: Dr. Shaji Varghese, Asst. Professor in Chemistry

Students

Sl. No.	Name	Department / Course
1	Shalini Mohan	M. Sc. Analytial Chemistry
2	Sreejith S	M. Sc. Analytial Chemistry
3	T AthiraHaridasan	M. Sc. Analytial Chemistry
4	Sonya Johnson	M. Sc. Botany
5	SreyasBiji Mathew	M. Sc. Botany
6	Veena P Lal	M. Sc. Microbiology
7	Vismaya Johnson	M. Sc. Microbiology
8	Aleena	M. Sc. Physics
9	Athira M	M. Sc. Physics
10	ShabanaMuhammadali	M. Sc. Pure Chemistry
11	Sijin K Ashok	M. Sc. Pure Chemistry
12	Simi C Sunny	M. Sc. Pure Chemistry
13	Angel Sneha John	M. Sc. Zoology
14	Annie Mary Paul	M. Sc. Zoology
15	Arun Kumar	NCC
16	Harikrishnan R	NCC
17	Sheena Elsa Sunny	NSS
18	Abhijith.M	NSS

3.2 Student Clubs and Forums Involved

Nature Club, Forestry Club, Tourism Club, Nature Club, Women Cell, Career Guidance Cell, Placement Cell, Best Arts, EnteurpreunerDevelopment Club, N.S.S, N.C.C, and Department level associations.

3.3 Comments on Site Tour

Site inspection was done along with students and staff. Questionnaires were answered during the site tour. Students and staff took much interest in the data collection processes. It was quite interesting and fascinating. It was an environmental

awareness program for the students who participated in the green auditing. The experience of green auditing was totally a new experience for most of the students. They have shared their expectations about a green campus and gave suggestions for the audit recommendations.

3.4 Review of Documents and Records

Documents such as admission registers, registers of electricity and water charge remittance, furniture register, laboratory equipment registers, purchase register, audited statements, and office registers were examined and data were collected. College calendars, college magazines, annual report of the college and NAAC self-assessment reports, UGC report etc. were also verified as part of data collection.

3.5 Review of Policies

Discussions were made with the college management regarding their policies on environmental management. Future plans of the college were also discussed. The management would formulate a revised environment /green policy for the college in the light of green auditing. The purpose of the green audit was to ensure that the practices followed in the campus are to be in accordance with the Green Policy adopted by the institution.

3.6 Interviews

In order to collect information for green auditing different audit groups interviewed office staff, Principal, teaching and non-teaching staff, students, parents and other stakeholders of the college. Discussions were also made with the PTA office bearers to clarify doubts regarding certain points.

3.7 Site inspection

College and its premises were visited and analyzed by the audit-teams severaltimes to gather information. Campus trees were counted and identified.Organic farm, play grounds, canteen, library, office roomsand parking areas were also visited to collect data. Number and type ofvehicles used by the stakeholders were counted and fuel consumption for eachvehicle was verified with the user. Number of LPG cylinders used in labs,canteen and hostel kitchen were also counted. Leakage of a few water tapswere noticed during the site inspection.

CHAPTER – 4

Post Audit Stage

The base of any green audit is that its findings are supported by documentsand verifiable information. The audit process seeks, on a sampled basis, totrack past actions, activities, events, and procedures to ensure that they arecarried out according to systems requirements and in the correct manner.Green audits form a part of a process. Although they are individual events, thereal value of green audits is the fact that they are carried out, at definedintervals, and their results can illustrate improvement or change over time.Although green audits are carried out using policies, procedures, documentedsystems and objectives as a test, there is always an element of subjectivity inan audit. The essence of any green audit is to find out how well theenvironmental organisation, environmental management and environmentalequipment are performing. Each of the three components are crucial inensuring that the organisation's environmental performance meets the goalsset in its green policy. The individual functioning and the success of integrationwill all play a role in the degree of success or failure of the organisation'senvironmental performance.

4.1 Key Findings and Observations

a) Water

Water Quality assessment

Water samples from four different locations were collected and analyzed for its quality parameters. The samples includes two well water which are the main water source of the college campus and two tap water samples which is used for canteen and drinking water cum cooler systems. The samples were collected, preserved and transported to PG & Research Dept. of Botany and PG & Research Dept. of Chemistry and analyzed for various physio-chemical parameters. The major parameters analyzed include dissolved oxygen, alkalinity, chloride, hardness, pH, conductivityand total dissolved solids. The results are comparable with the values of drinking water standards prescribed by different agencies.

Parameters	**College – Tap Water**	**College-Cooler**	**Hostel**	**Standard value (BIS)**
Dissolved Oxygen (mg/l)	2.05	4.34	4.2	6-8
Alkalinity (mg/l)	18.065	22.45	25.6	200
Chloride (mg/l)	16.2	9.4	9.52	250
Hardness (Total)	17	85.2	20.0	200
Conductivity (µs)	166.084	10.20	65.5	
pH	6.5	6.56	6.70	6.5-8.5

Water cooler with drinking water filtration is installed	5
Number of urinals and toilets	150
Number of waterless urinals	Nil
Number of bathrooms	58
Number of water taps	(7 tap are leaky)
Quantity of water pumped	70,000 liters/day
Number of water tanks for water storage	12
Amount of water stored	25,000 L

Overall utilization of water in the College
Sections Water Use/day

Places	**Litre**
Toilets and urinals	5000
Hostel	5000
Bathrooms	2000
Canteen	6000
Garden and ground	2000
Laboratories	4000
Leakage	50

Evaluation of Audit Findings

1.	List uses of water in your college.	Bathrooms Canteen Cleaning Construction works Drinking Garden Hostels Laboratories Office uses Toilets Washing
2.	What are the sources of water in your college?	Wells and Municipal Water
3.	How many wells are there in your college?	3
4.	No. of motors used for pumping water from each well?	4 Motors
5.	What is the total horse power of each motor?	12 HP(10HP and 2 HP)
6.	What is the depth of each well?	50 Feet and 40 Feet
7.	What is the present depth of water in each well?	Approximately 15 feet in each well
8.	How does your college store water?	Overhead water tanks
9.	Quantity of water stored in your overhead water tank? (in liters)	18000 Liters
10.	Quantity of water pumped every day? (in liters)	70,000Liters
11.	If there is water wastage, specify why.	Overflow, Leakages from Tap, Over use of water
12.	How can the wastage be prevented / stopped?	By repairing the taps and giving awareness to prevent the over usage of water
13.	Where does waste water come from?	Canteen, laboratories, toilets and bathrooms
14.	Where does the waste water go?	It goes to the sewage
15.	What are the uses of waste water in your college?	Nil
16.	What happens to the water used in your labs? Whether it gets mixedwith ground water?	It is collected separately in concrete tanks, it is not mixed with ground water
17.	Is there any treatment for the lab water?	No
18.	Whether green chemistry methods are practiced in your labs?	Yes
19.	Write down four ways that could reduce the amount of waterused in your college.	Recycle waste water and reuse for gardening Use of drip irrigation to reduce the over usage of water for gardening Avoid the over flow to

		prevent the water wastage Replacement of leakage taps
20.	No. of water coolers. Amount of water used per day? (in liters)	3 Coolers, 1000 liters per day
21.	No. of water taps. Amount of water used per day?	250 taps – 15,000 litres
22.	No. of bath rooms in staff rooms, common, hostels – amounof water used per day?	52 4000 Liter
23.	No. of toilet, urinals. Amount of water used per day?	123 7000 Liter
24.	No. of water taps in the canteen. Amount of water used per day?	16 taps, 1500 - 2000 liters per day
25.	Amount of water used per day for garden use.	500 liters
26.	No. of water taps in laboratories. Amount of water used per dayin each lab?	148
27.	Total use of water in each hostel?	12000 liter
28.	At the end of the period, compile a table to show how many litres of water have been used in the college for each purpose	Provided
29.	Is there any water used for agricultural purposes?	Yes
30.	Does your college harvest rain water?	No
31.	If yes, how many rain water harvesting units are there?(Approx. amount)	
32.	How many of the taps are leaky? Amount of water lost per day?	18, 50 liters
33.	Are there signs reminding people to turn off the water? Yes / No	Yes
34.	Is there any waterless toilets?	NO
35.	How many water fountains are there?	Nil
36.	How many water fountains are leaky?	NA
37.	Is drip irrigation used to water plants outside? YES/NO	YES
38.	How often is the garden watered?	Daily
39.	Quantity of water used to watering the ground?	NIL
40.	Quantity of water used for bus cleaning? (liters per day)	NIL
41.	Amount of water for other uses? (items not mentioned above)	200 liters
42.	Area of the college land without tree/building canopy.	Ground only
43.	Is there any water management plan in the college?	YES

Reasons for water wastage

- Leakages from taps
- Over use of water\Overflow of water from motors

OVERALL UTILIZATION OF WATER IN THE COLLEGE

WATER AND WASTEWATER MANAGEMENT

WATER RESOURCES

Water resources available inside the campus	▪ Municipal Tap Water ▪ Open wells
Whether the college depends on external water resources?	Yes
Whether water is available round the year?	Yes
Whether water resources are cleaned regularly?	Yes
Whether water quality has been analyzed?	Yes
Whether purified drinking water is available in college, hostels and canteen?	Yes
Methods used for water purification	Commercial purifying systems have been installed for drinking water
Whether the college makes use of bore wells?	No
Whether the water usage pattern of the college causes depletion of ground water?	No
Whether water harvesting system is installed?	No
Capacity of water harvesting system	No

WATER USAGE

Daily water requirements of the campus (excluding hostels)	1500-2000 litres
Daily water requirements of the campus (including hostels)	20000 litres
Per capita water usage (yearly)	400-500 litres
Whether tap water is available round the clock in the campus?	Yes
Whether tap water is available round the clock in hostels?	Yes
Whether purified drinking water is available?	Yes
Number of water purifiers / coolers installed?	2
Whether water tanks are cleaned regularly?	Yes
Whether annual maintenance of water supply and water purifiers is undertaken?	Yes
Whether repair of water leakage is promptly undertaken?	Yes
Whether judicious usage water is practiced and ensured on the campus?	Yes

DRAINAGE AND WASTEWATER MANAGEMENT

Whether drainage system is in place for the flow of rainwater?	No, Groundwater recharging
Sources of wastewater generated in the college	▪ Taps for students washing area ▪ Wastewater from canteen ▪ Wastewater from ladies hostel ▪ Wastewater from toilets inside the main building and other buildings ▪ Waste water from laboratories
Methods adopted for the disposal of wastewater in the college	▪ Septic tanks have been constructed ▪ Underground sewage disposal pits have been constructed
Whether wastewater flows through open drainage	No
Whether risk of drinking water sources getting contaminated by waste water exist?	No
Whether hazardous chemical or biological waste gets mixed with drainage?	No
Whether wastewater flows to the rainwater drainage system	No

Auditing for EnergyManagement

ENERGY USAGE

How does the college meet its energy requirements?	Electric connection from KSEB
Whether generator facility is available?	Yes
Details of UPS facility	UPS are installed in Office
Major power consumption equipment	▪ Water pumps ▪ Laboratory instruments ▪ Fans and Lights ▪ AC ▪ Photocopiers and printers ▪ Computers ▪ UPS
Whether judicious usage of electricity is ensured?	Yes
Whether energy star rating is ensured in the purchase of equipment?	Yes
Whether LED lighting systems are used?	Yes
Whether any renewable source of energy is used?	No, Proposal submitted for the installation of solar panel
Potential for renewableenergy usage	High potential for solar energy generation

Calculation of energy for electrical appliances

Energy usage of Fans in the college

Department/ area	Number of Fans	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Auditorium	14	770	0.77	2	33.88
Seminar hall	10	550	0.55	1	12.1
Media centre	3	165	.165	5	12.37
Campus	2	110	0.110	5	12.1
Canteen	10	550	0.55	4	60.5
Cooperative society	2	110	0.11	5	12.1
Office	13	715	0.715	7	130.13
Old hostel	86	4730	4.730	10	1419
New hostel	65	3575	3.575	10	1072
Sports hostel	4	220	0.22	1	5.72
English	23	1265	1.265	6	182.16
Mathematics	18	990	0.99	6	130.68
Malayalam	1	55	0.055	5	6.05
Hindi	1	55	0.055	5	6.05
Statististics	1	55	0.055	5	6.05
Chemistry	18	990	0.99	6	130.68
Physics	43	2365	2.365	6	312.18
Botany	19	1045	1.045	6	137.94
Zoology	15	825	0.825	6	109
Bioscience	31	1705	1.705	6	225.06
B.com	13	715	0.715	6	94.38
History	13	715	0.715	6	94.38
Economics	13	715	0.715	6	94.38
Politics	8	440	0.44	6	58.08
Library	35	1925	1.925	6	277.2
Visitors room	2	110	0.11	1	2.42
Management office	3	165	0.165	5	18.15
Principal’s room	2	110	0.11	5	12.1
Computer lab	12	660	0.66	3	43.56
Instrumentation lab	23	1265	1.265	3	83.49
Total	**503**		**27.005**		**4,775.74**

Energy usage of Air Conditioners in the College

Department/ area	Number of Air Conditioners	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Seminar hall	4	1000	1	3	30
Visitors room	1	250	.250	5	25
Principal's room	1	250	.250	9	58.5
Research Lab	8	2000	2	6	264
Total	**14**	**3500**	**3.5**	**23**	**377.5**

Energy usage of Tube lights in the college

Department/ area	Number of Tube lights	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Auditorium	25	1000	1	2	44
Seminar hall	8	320	0.320	1	4.8
Media centre	2	80	0.08	1	1.6
Campus	1	40	0.04	5	4.4
Canteen	10	400	0.4	3	26.4
Cooperative society	2	80	0.08	3	5.28
Office	11	440	0.44	5	48.4
Old hostel	138	5520	5.52	8	971.52
New hostel	64	2560	2.56	8	450.56
Sports hostel	4	160	0.160	2	8.32
English	6	240	0.24	5	26.4
Mathematics	25	1000	1	3	66
Malayalam	1	40	0.04	5	4.4
Hindi	1	40	0.04	3	
Statististics	1	40	0.04	3	2.64
Chemistry	17	680	0.68	2	29.92
Physics	32	1280	1.28	2	56.32
Botany	28	1120	1.12	3	73.92
Zoology	33	1320	1.32	4	116.16
Bioscience	36	1440	1.44	3	95.04
B.com	1	40	0.04	3	2.64
History	13	520	0.52	3	34.32
Economics	11	440	0.44	3	29.04

Politics	3	120	0.12	3	7.92
Library	50	2000	2	5	220
Visitors room	2	80	0.08	3	5.28
Management office	5	200	0.2	6	26.4
Principal's room	2	80	0.08	6	12.48
Computer lab	4	160	0.16	3	10.56
Instrumentation lab	4	160	0.16	2	7.04
Total	**540**	**21600**	**21.6**	**108**	**2391.76**

Energy usage CFL in the college

Department/ area	Number of CFL	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Instrumentation	9	360	0.360	5	39.6
Old Hostel	22	880	0.880	8	154.88
Total	**31**	**1240**	**1.24**	**13**	**194.48**

Electrical Equipment's and their energy consumption

Name of the appliance/ equipment	Number of appliance/ equipment	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Air oven	8	2700	2.7	2	950.2
Aquarium purifier	3	120	0.12	3	7.92
Auto clave,	3	9000	9	3	594
Distillation apparatus,	2	600	0.6	3	39.6
Electric centrifuge,	10	1300	1.3	3	85.8
Electric furnance	2	20000	20	3	1320
Electric oven,	1	5000	5	3	330
Electronic weighing	11	66	0.066	3	4.356
Exhaust fan	16	560	0.56	3	36.96
Fridge	5	1000	1	3	66
Heating mantle	2	600	0.6	3	39.6
I.r lamp	2	500	0.5	3	33
Incubator	4	800	0.8	3	52.8
Laminar	3	750	0.75	3	49.5
Magnetic stirrer	7	3850	3.85	3	254.1
Mercury bulb	3	525	0.525	3	34.65
Modem	2	40	0.04	3	2.64

Printer	4	1600	1.6	3	105.6
Projector	4	1200	1.2	3	79.2
Projector	3	900	0.9	3	59.4
Rotary shaker	3	324	0.324	3	21.384
Scanner	2	600	0.6	3	39.6
Shaker	1	250	0.25	3	16.5
Sodium vapour lamb	3	1200	1.2	3	79.2
Sonicator	2	40	0.04	3	2.64
Speaker	71	14200	14.2	3	937.2
Spectro photometer	4	1200	1.2	3	79.2
Stabilizer	2	800	0.8	3	52.8
Water bath	4	5920	5.92	3	390.72
Atomic absorption spectrometer	1	200	0.2	3	13.2
Palorimeter	1	200	0.2	3	13.2
Refractrometer	1	7	0.007	3	0.462
Calorimeter	2	400	0.4	3	26.4
Tissue homogeniser	1	125	0.125	3	8.25
Ph meter	1	1.25	0.00125	3	0.0825
Turbiditymeter	1	200	0.2	3	13.2
Grinder	1	750	0.750	3	49.5
Fridge	1	200	0.200	5	22
Total	**198**	**102028.3**	**102.0283**	**116**	**6742.665**

Energy usage of Computers in the College

Department/ area	Computer/ laptop Number	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Office	13	2600	2.6	7	400.4
English	22	4400	4.4	2	193.6
Mathematics	10	2000	2	3	52.8
Malayalam	1	200	0.2	3	13.2
Hindi	1	200	0.2	3	13.2
Statististics	1	200	0.2	3	13.2
Chemistry	18	3600	3.6	3	39.6
Physics	20	4000	4	3	198
Botany	8	1600	1.6	2	61.6
Zoology	10	2000	2	3	105.6
Bioscience	17	3400	3.4	2	158.4
B.com	1	200	0.2	2	8.8
History	3	600	0.6	3	13.2
Economics	5	1000	1	3	13.2

Politics	1	200	0.2	3	13.2
Library	18	3600	3.6	6	79.2
Management office	1	200	0.2	6	52.8
Principal's room	3	600	0.6	6	26.4
Computer lab	34	6800	6.8	2	299.2
Old Hostel	1	200	0.2	3	13.2
New Hostel	1	200	0.2	3	13.2
Media Centre	1	200	0.2	3	13.2
DST FIST Lab	4	800	0.8	6	26.4
Physical Education	1	200	0.2	3	13.2
IQAC	1	200	0.2	3	13.2
Total	**195**	**39200**	**39.2**	**86**	**1848**

Energy usage of Photocopiers in the College

Department/ area	Number of Photocopiers	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Cooperative store	1	700	0.7	2	30.8
Office	2	1400	1.4	2	61.6
Mathematics	2	1400	1.4	2	61.6
Physics	1	700	0.7	0.5	7.7
Management office	1	700	0.7	2	
Computer lab	1	700	0.7	2	30.8
Total	**8**	**5600**	**5.6**	**10.5**	**192.5**

Energy usage of Televisions in the College

Department/ area	Number of Televisions	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
English	1	150	.150	0.750	15
Old Hostel	1	150	.150	0.600	18
New Hostel	1	150	.150	0.600	18
Total	**3**	**450**	**0.450**	**1.95**	**51**

Energy usage of Amplifiers and CCTV DVR in the College

Name of the appliance/ equipment	Number of appliance/ equipment	Power Consumed (watts)	Power in (kW)	Working Time (hours per Day)	Energy Usage per month (kWh)
Amplifier	6	7200	7.2	14.4	316.8
CCTV DVR	2	120	0.12	1.44	43.2
Total	**8**	**7320**	**7.32**	**15.84**	**360**

Evaluation of Audit Findings

Energy Utilization

Appliances	Number of appliance	Units of current per month kWh
Computers and laptops	137	1755.6
Air conditioners	14	377.5
CFL bulbs	31	194.48
Photocopiers	6	192.5
LED lights	113	102.50
Fans	503	4775
Tube lights	540	2391.76
Electrical Equipments	201	5911.065
Televisions	2	33
CCTV DVR	2	43.2
Amplifier	6	316.8
Total Energy usage per month (kWh)		16,092.74

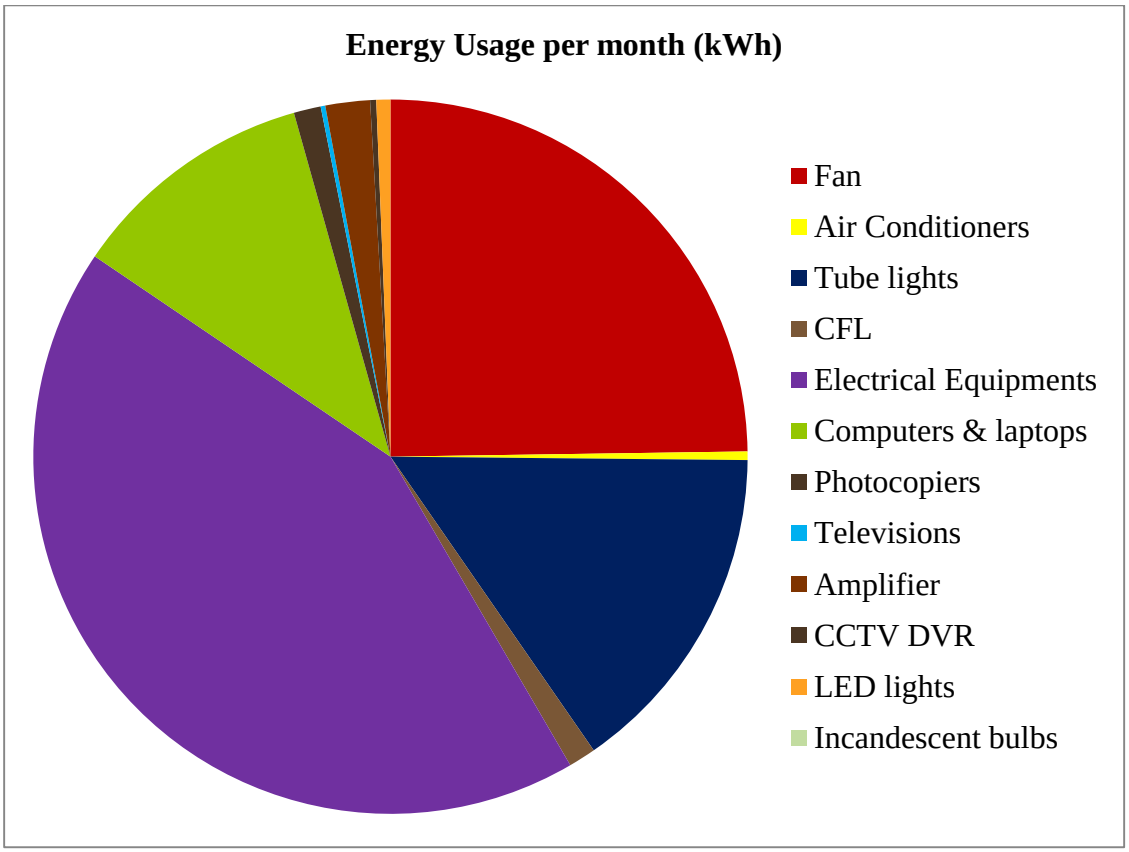
ENERGY USAGE

Final Evaluation Report and total Energy Usage.

Energy

Appliances	Number of appliance	Units of current per month kWh
Computers and laptops	137	1755.6
Air conditioners	14	377.5
CFL bulbs	31	194.48
Photocopiers	6	192.5
LED lights	113	99.792
Incandescent bulbs	0	0
Fans	503	4775.74
Tube lights	540	2391.76
Electrical Equipments	201	6742.665
Televisions	2	33
CCTV DVR	2	43.2
Amplifier	6	316.8
Total Energy usage per month (kWh)		~ 16,092
Electricity charges		Rs.1,22,299/month
Number of Gas cylinders used per month		4
Cost of Gas cylinders used		Rs. 3000 /month
Number of Generators		3
Cost of generator fuel		Rs.7000/month
Total cost of energy		Rs. 1,32,299/month
How does the college meet its energy requirements?		Electric connection from

	KSEB
Total electricity usage per month	~ 16,092kwh
Whether generator facility is available?	Yes
Details of UPS facility	UPS are installed in Office
Major power consumption equipment	▪ Water pumps ▪ Laboratory instruments ▪ Fans and Lights ▪ AC ▪ Photocopiers and printers ▪ Computers ▪ UPS
Whether judicious usage of electricity is ensured?	Yes
Whether energy star rating is ensured in the purchase of equipment?	Yes
Whether LED lighting systems are used?	Yes
Whether any renewable source of energy is used?	No, Proposal submitted for the installation of solar panel
Potential for renewable energy usage	High potential for solar energy generation



C. Waste

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

	No. of Students	No. of Teachers	Non teaching staff
Gents	483	31	35
Ladies	1188	42	6
Total	**1671**	**73**	**41**

2. Which of the following are available in your College? Give area occupied and number

Garden area	Garbage dump (number)
Playground area	Laboratory
Kitchen	Canteen
Toilets (number) - 123	Car/scooter shed area
Number of class rooms	Office rooms
Others (specify)	

Management of waste

3.	E-wastes- computers, electrical and electronic parts – Disposal	Selling
4.	Plastic waste- disposal	Selling
5.	Solid wastes	Damaged furniture, paper waste, paper plates, food wastes – to Municipal waste collection centers
6.	Chemical wastes	Laboratory waste – No treatment
7.	Waste water	washing, urinals, bathrooms in soak pits, toilets in septic tanks
8.	Glass waste	Broken glass wares from the labs to municipal wastecollection centers
9.	Napkin incinerators	4
Quantity of waste generated:-		
10.	Biodegradable (office)	1 kg/day
11.	Biodegradable(labs)	1kg/day

12.	Canteen waste	15 - 20 Kg/ day
13.	Dry leaves	10 Kg
14.	E-waste	101 (Nos)
15.	Glass	1 Kg
16.	Hazardous waste	150gm/day
17.	Liquid waste	100 lit
18.	Medical waste if any	Nil
19.	Napkins	25
20.	Non biodegradable(office)	½ kg/day (office)
21.	Non-biodegradable (campus)	¼ kg/day (including glass bottles)
22.	Solid waste	50 (Nos)
23.	Unused equipment	263 (Nos)
Canteen waste		
24.	Biodegradable college canteen	20 kg/day
25.	Non biodegradable	½ kg/day

26. 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)

Municipal dump yard	1
Garbage heap	1
Public convenience	1
Sewer line	1
Stagnant water	1
Open drainage	1
Industry – (Mention the type)	1
Bus / Railway station	1
Market / Shopping complex / Public halls	1

27. Does your college generate any waste? Yes

28. If so, what are they? How much quantity? Number or weight

E-waste	101 (Nos)
Hazardous waste (toxic)	Laboratory Chemicals
Solid waste	50 (Nos)
Dry leaves	10 Kg
Canteen waste	15 - 20 Kg/ day
Liquid waste	100 lit
Glass	1 Kg
Unused equipment	263 (Nos)
Medical waste if any	Nil
Napkins	25
Others (Specify)	

29. Is there any waste treatment system in the college? **Yes**

30. Is there any treatment for toilet/urinal/sanitary napkin waste? **No**

31. What is the approximate quantity of waste generated per day? (in Kilograms)

Office

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

Laboratories

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

Canteen/kitchen

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

32.	Whether waste is polluting ground/surface water? How?	No

33.	Whether waste is polluting the air of the college? How?	Yes, by the use of gases in the laboratories and by the use of incinerators which pollute the air
34.	How is the waste generated in the college managed? Methods	a. Composting * b. Recycling c. Reusing * d. Others (specify)
35.	How many separate boxes do you think you would need to put into aclassroom to start a waste segregation and recycling campaign?What should be the use for each box? (Develop a colour code with reasons)	Green colour for- Bio degradable waste Yellow Colour for paper waste Red colour for Glass waste Blue colour for Plastics waste
36.	Do you use recycled paper in College?	No
37.	Is there any waste wealth program practiced in the college?	Yes, students are practicing paper carry bag making, seed pen, handicrafts making etc
38.	How would you spread the message of recycling to others in thecommunity? Have you taken any initiatives? If yes, please specify	Every year as part of the Environment Day celebration we educate the public to reduce the use of plastics.
39.	Can you achieve zero garbage in your college? (Reduce,Recycle, Reuse,Refuse) If yes, how?	Recently, we take initiatives to recycle plastics and papers. We have to strengthen then processes to achieve zero garbage in our college.

BIO DEGRADABLE WASTE

40.	Main sources of bio-degradable waste in the campus	▪ Food waste, Canteen waste ▪ Waste paper, card board etc. ▪ Paper carry bags and cartons ▪ Yard waste
41.	Amount of bio-degradable waste generated per day	20-30 kg
42.	Amount of bio-degradable waste	08-10 kg

	generated per capita (one year)	
43.	Methods for collection of bio-degradable waste	▪ Waste bins have been placed in various places in the campus such as class rooms, portico and corridors. ▪ Waste pits have been constructed to collect food waste from students who bring meals to the college. ▪ Sweepers and sanitation workers have been employed. ▪ A waste disposal pit has been taken in the backyard of Commerce block
44.	Measures taken for disposal of bio-degradable waste	▪ Waste paper, cartons etc. are auctioned as per rules ▪ Yard waste is used in the botanical garden and in organic farming ▪ Students are instructed not to throw away solid waste in campus
45.	Whether bio-degradable waste is disposed in the campus itself	Yes
46.	Methods of disposal for bio-degradable waste inside the campus	▪ Biogas generation ▪ Organic Farming ▪ Pit composting ▪ Vermicomposting
47.	Whether bio-degradable waste is disposed outside the campus	No
48.	Methods of disposal for bio-degradable waste outside the campus	No
49.	Whether recycle mechanism available for bio-degradable waste	NA

NON-BIODEGRADABLE WASTE

50.	Sources of non-biodegradable waste in the campus	▪ Plastic carry bags ▪ Plastic bottles ▪ Packing materials of equipment purchased ▪ Waste chalk, pens, pencils and other stationery ▪ Chemicals and consumables from laboratories
51.	Amount of non-biodegradable waste generated per year	80-100 kg
52.	Methods for collection of non-biodegradable waste	▪ Waste bins have been placed in various places in the campus such as class rooms, portico and corridors. ▪ Sweepers and sanitation workers have been employed.
53.	Measures taken for disposal of non-	▪ Packing material, stationary etc. are auctioned as

	biodegradable waste	per rules so as to avoid accumulation of non-degradable waste in the campus ▪ A sanitary napkin disposal machine is installed in the ladies rest room ▪ Chemical waste is disposed as per the existing regulations ▪ Use of plastic carriage bags are minimized ▪ Use of non-degradable cups and bottles are discouraged
54.	Whether any hazardous chemical or biological waste is produced?	No
55.	Whether hazardous chemical and biological waste is properly disposed?	NA

E-WASTE

56.	Sources of e-waste in the campus	▪ Unserviceable computers, UPS, printers etc. ▪ Consumables such as cartridges, toners etc. ▪ Electronic components from laboratories ▪ Damaged computer parts such as keyboards, monitors etc. ▪ Replaced electronic boards of equipment ▪ Renovation of electric wiring
57.	Methods for collection of e-waste	▪ E-waste is collected separately
58.	Measures taken for of disposal for e-waste	▪ CD's can be sold to special a recycling company that separates the components ▪ Bulbs are picked up as a separate load, for special handling. Batteries are sorted into rechargeable and disposable ▪ Old electronic equipment and computers are made available for physics students for study purposes ▪ As far as possible old cartridges and toners are taken over by the service firms ▪ Old electronic scrap is auctioned as per government rules ▪ Arranged suitable location in campus where we can place the E-waste without harm to the ecosystem ▪ Electronic components are reused in laboratories as far as possible
59.	Whether e-waste is disposed in the campus itself	No
60.	Whether e-waste is disposed outside the campus	No
61.	Whether recycle mechanism available for e-waste	No

d) Green Campus

1.	Is there a garden in your college? Area?	Yes
2.	Do students spend time in the garden?	Yes
3.	List the plants in the garden, with approx. numbers of each species.	List provided
4.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	All kinds of plants
5.	List the species planted by the students, with numbers.	List provided
6.	Whether you have displayed scientific names of the trees in the campus?	Yes
7.	Is there any plantations in your campus? If yes specify area and type of plantation.	No
8.	Is there any vegetable garden in your college? If yes how much area?	Yes 1 Acre
9.	Is there any medicinal garden in your college? If yes how much area?	Yes 10 Cents
10.	What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season)	Long bean, bitter gourd, snake gourd, okra, chilli, tomato, cauliflower, brinjal, banana, cassava, spinach
11.	How much water is used in the vegetable garden and other gardens? (Mention the source and quantity of water used).	2000L
12.	Who is in charge of gardens in your college?	Gardner
13.	Are you using any type of recycled water in your garden?	No
14.	List the name and quantity of pesticides and fertilizers used in your gardens?	Organic pesticides and organic manures are using
15.	Whether you are doing organic farming in your college? How?	Yes Jaivam Organic Farming
16.	Do you have any composting pit in your college? If yes What are you doing with the compost generated?	Yes Using for organic farming
17.	What do you doing with the vegetables harvested?	Selling to college community
18.	Do you have any student market?	Yes
19.	Is there any botanical garden in your campus? If yes give the details of campus flora.	Yes List attached
20.	Give the number and names of the medicinal plants in your college campus.	60 List attached
21.	Any threatened plant species	Yes

	planted/conserved?	List attached
22.	Is there a nature club in your college?	Yes
23.	Is there any arboretum in your college? If yes details of the trees planted	Yes List attached
24.	Is there any groves in your college? If yes details of the trees planted.	No
25.	Is there any irrigation system in your college?	Yes
26.	What is the type of vegetation in the surrounding area of the college?	Evergreen, Wetland, Agriculture lands, Paddy fields, Rubber Plantation
27.	What are the nature awareness programmes conducted in the campus?	Day observations, Tree Saplings distribution, Nature trips and trekking, Intra and Intercollegiate competitions, Film shows, Field projects, waste management programmes, seminars, workshop, Bird watching Environmental education as part of syllabus in different UG and PG programmes etc.
28.	What is the involvement of students in the green cover maintenance?	Tree plants, medicinal plants, orchidarium, plant conservatory, butterfly garden, organic farming etc are established and maintatining in the campus with the support of students.
29.	What is the total area of the campus under tree cover? Or under tree canopy?	~ 80 %
30.	Share your IDEAS for further improvement of green cover	Tree sapling plantings

CAMPUS ENVIRONMENT AND MAINTENANCE

Percentage of green cover of campus	~ 80 %
Total number of plant species identified	More than 250 species
Does the campus have indigenous trees and plants?	Yes
Does the campus have indigenous fauna?	Yes
Whether steps are taken for conservation of trees and plants in the campus?	Yes
Whether comprehensive landscape management is in place?	Yes
Whether campus cleaning is conducted regularly?	Yes
Whether buildings, rooms, toilets etc. are cleaned on a daily basis?	Yes
Whether staff has been appointed for campus and building maintenance?	Yes
Whether annual maintenance of buildings is undertaken?	Yes
Whether repair of electric wiring and equipment is promptly undertaken?	Yes

Table No. 1

Floral Wealth of Mar Thoma College, Tiruvalla

Plant Groups	**Plant species representation**	**Approximate number of plants**
Algae	25	Not counted
Fungi		Not counted
Lichens	15	Not counted
Bryophyte	14	Not counted
Pteridophytes	25	Not counted
Gymnosperms	8	
Angiosperms		
Climbers	16	3700
Creepers	3	
Epiphytes	5	
Herbs	62	
Shrubs	49	647
Small trees	4	
Stragglers	4	
Tree	62	486
Total	**204**	**4833**

Table No. 1.a

Algal Genera identified from Mar Thoma College Campus, Tiruvalla

Sl. No	**Name**	**Family**
1.	*Ankistrodesmus*	Oocystaceae
2.	*Characium*	Characeae
3.	*Closterium*	Desmidaceae
4.	*Cosmarium*	Desmidaceae
5.	*Euastrum*	Desmidaceae
6.	*Fritchiella*	Chaetophoraceae
7.	*Gloeocapsa*	Chroococcaceae
8.	*Lyngbya*	Oscillatoriaceae
9.	*Microspora*	Microsporaceae
10.	*Mougeotia*	Zygenemataceae
11.	*Nacicula*	Naviculaceae
12.	*Netrium*	Mesotaeniaceae
13.	*Oedogonium*	Oedogoniaceae
14.	*Onychonema*	Desmidaceae
15.	*Oscillatoria*	Oscillatoriaceae

16.	*Pediasterum*	Hydrodictaceae
17.	*Pinnularia*	Naviculaceae
18.	*Scenedesmus*	Scenedesmaceae
19.	*Selanastrum*	Oocystaceae
20.	*Sirogonium*	Zygnemataceae
21.	*Spirogyra*	Zygnemaceae
22.	*Trentepohlia*	Trentepohliaceae
23.	*Ulothrix*	Ulotrichaceae
24.	*Xanthidium*	Desmidaceae
25.	*Zygogonium*	Zygnemataceae

Table No. 1.b

Sl. No.	Name	Family	Status
1	*Canoparmelia texana* (Tuck.) Elix & Hale	Parmeliaceae	
2	*Enterographa micrographa* (Nyl.) Redinger	Roccellaceae	New Record to Kerala
3	*Dirinaria applanata* (Feé) D.D. Awasthi	Caliciaceae	New Record to Kerala
4	*Graphis cinnamomea* Adaw. & Makhija	Graphidaceae	New Record to Kerala
5	*Leptogium austroamericanum* (Malme) C.W. Dodge	Collemataceae	
6	*Parmotrema hababianum* (Gyeln.) Hale	Parmeliaceae	
7	*Parmotrema praesorediosum* (Nyl.) Hale	Parmeliaceae	
8	*Parmotrema reticulatum* (Taylor) M. Choisy	Parmeliaceae	
9	*Phaeographis nylanderi* (Vain.) Zahlbr.	Graphidaceae	New record to India
10	*Phyllopsora furfuracea* (Pers.) Zahlbr.	Ramalinaceae	
11	*Phyllopsora nemoralis* Timdal & Krog	Ramalinaceae	New Record to Kerala
12	*Pyrenula marvalensis* Vain.	Pyrenulaceae	New Record to Kerala
13	*Pyxine cocoes* (Sw.) Nyl.	Caliciaceae	
14	*Pyxine* cf. *endochrysina* Nyl.	Caliciaceae	New Record to Kerala
15	*Pyxine reticulata* (Vain.) Vain.	Caliciaceae	New Record to Kerala

Zachariah, S. A., Nayaka, S., Joseph, S., Gupta, P., Thomas, S., & Varghese, S. K. (2018). New and noteworthy records of lichens from Pathanamthitta district, Kerala. *Studies in Fungi*, *3*(1), 349–356. http://doi.org/10.5943/sif/3/1/35

Table No. 1.c: Bryophytes identified from Mar Thoma College Campus, Tiruvalla

Sl. No	Name	Family	Remarks
1.	*Riccia*	Ricciaceae	
2.	*Cyathodium*	Cyathodiaceae	
3.	*Octoblepharum albidium*	Dicranaceae	
4.	*Bryum cornatum*	Bryaceae	
5.	*Hyophila involuta*	Pottiaceae	
6.	*Porella*	Porelllaceae	
7.	*Funaria*	Funariaceae	
8.	*Pogonatum*	Polytrichaceae	Growing in plant conservatory
9.	*Reboulia*	Aytoniaceae	Growing in plant conservatory
10.	*Pallavicinia*	Pallaviciniaceae	Growing in plant conservatory
11.	*Lunularia*	Lunulariaceae	Growing in plant conservatory
12.	*Marchantia*	Marchantiaceae	Growing in plant conservatory
13.	*Targionea*	Targioniaceae	Growing in plant conservatory

Table No. 1.d: Pteridophytes identified from Mar Thoma College Campus, Tiruvalla

Class	Order	Family	Genus	Species	Remarks
Psilitopsida	Psilotales	Psilotaceae	*Psilotum*	*nudum*	Living fossil
Lycopsida	Selaginellales	Selaginellaceae	*Selaginella*	*tenera*	
				dixitii	
				willdenowii	Peacock blue fern
Equisetopsida	Equisetales	Equisetaceae	*Equisetum*		Living fossil
Filicopsida	Schizaeales	Lygodiaceae	*Lygodium*	*microphyllum*	
	Marttiales	Angiopteridaceae	*Angiopteris*	*evecta*	Tree Fern
	Pteridales	Pteridaceae	*Pteris*	*biaurita*	
				vittata	
		Adiantaceae	*Adiantum*	*latifolium*	Walking fern
			Adiantum		Walking fern
		Hemionitidaceae	*Pityrogramma*	*calomelanos*	
		Vittariaceae	*Vittaria*	*microlepis*	
	Blechnales	Blechnaceae	*Blechnum*		
	Polypodiales	Polypodiaceae	*Drynaria*	*quercifolia*	
			Pleopeltis	*macrocarpa*	
			Pyrrosia	*heterophylla*	
			Polypodium		
			Nephrolepis		
		Aspleniaceae	*Asplenium*		Epiphyte
		Acrostichaceae	*Acrostichum*		
	Salviniales	Salviniaceae	*Salvinia*		Aquatic
		Azollaceae	*Azolla*	*pinnata*	Aquatic
		Marseliaceae	*Marselia*		Aquatic

Table No. 1.e

Gymnosperms identified from Mar Thoma College Campus, Tiruvalla

Sl. No	Name	Family
1.	*Cycas circinalis*	Cycadaceae
2.	*Cycas revolute*	Cycadaceae
3.	*Microzamia*	Cycadaceae
4.	*Zamia*	Cycadaceae
5.	*Podocarpus*	Podacarpaceae
6.	*Araucaria*	Araucariaceae
7.	*Thuja*	Coniferaceae
8.	*Cupressus*	Cupressaceae

Table No. 1.f

List of plants growing in the Mar Thoma College Campus

Sl. No	Scientific Name	Family	Common Name	Habit	No. of Plants
1.	*Antigonon leptopus*	Polygonaceae	Coral wine	Climber	4
2.	*Asparagas rcemosus*	Asparagaceae	Shadaveri	Climber	2
3.	*Bignonia* sp	Bignoniaceae	Bignonia	Climber	13
4.	*Cardiospermum halicacabum*	Sapindaceae	Valliuzhinja	Climber	2
5.	*Cayratia pedata*	Vitaceae	Kattumunthiri	Climber	11
6.	*Clitoria ternata*	Fabaceae	Shankupushpam	Climber	8
7.	*Coccnia cordifolia*	Cucurbitaceae	Koval	Climber	4
8.	*Cyclea peltata*	Menispermaceae	Padathaali	Climber	3
9.	*Epipremnum aureum*	Araceae	Money plant	Climber	23
10.	*Merremia vitifolia*	Convovulaceae	Wood rose	Climber	43
11.	*Mikania scandens*	Asteraceae	Hempweed	Climber	120
12.	*Piper nigrum*	Piperaceae	Kurumulaku	Climber	7
13.	*Thunbergia grandiflora*	Acanthaceae	Bengal clock wine	Climber	9
14.	*Cucumis sativus*	Cucurbitaceae	Cucumber	Creeper	1
15.	*Puesaria mirifica*	Fabaceae	Kwao krua	Creeper	103
16.	*Solena* sp	Cucurbitaceae	Creeping cucumber	Creeper	7
17.	*Drynaria*	Polypodiaceae	Drynaria	Epiphyte	16
18.	*Monstera delisiosa*	Araceae	Aanathippali	Epiphyte	3
19.	*Pothos scandens*	Araceae	Anaparua	Epiphyte	3
20.	*Vanilla planifolia*	Orchidaceae	Vanilla	Epiphyte	1
21.	*Vanda*	Orchidaceae	Vanda	Epiphyte	24

22.	*Acalypha indica*	Euphorbiaceae	Indian Nettle	Herb	12
23.	*Achyranthes aspera*	Amaranthaceae	Cherukadaladi	Herb	5
24.	*Aerva lanata*	Amaranthaceae	Kozhuppa	Herb	750
25.	*Alternanthera sessilis*	Amranthaceae	Sessile joyweed	Herb	4
26.	*Alysicarpus*	Fabaceae	Alyce clover	Herb	2
27.	*Ananas comosus*	Bromeliaceae	Kaidha chakka	Herb	3
28.	*Andrographis paniculata*	Acantahaceae	Kiriyath	Herb	11
29.	*Anisomeles indica*	Lamiaceae	Catmint	Herb	4
30.	*Anthurium sps*	Araceae	Anthurium	Herb	16
31.	*Bambusoideae*	Poaceae	Bamboo	Herb	1
32.	*Biophytum sensitivum*	Oxalidaceae	Mukkutti	Herb	80
33.	*Boerrhavia diffusa*	Nyctaginaceae	Thazhuthama	Herb	67
34.	*Calathea* sp.	Marantaceae	Zebra plant	Herb	
35.	*Calathia freddie*	Marataceae	Prayer plant	Herb	3
36.	*Centella asiatica*	Apiaceae	Kudangal	Herb	22
37.	*Chlorophytum comosum*	Asparagaceae	Spider plant	Herb	5
38.	*Cleome viscosa*	Capparidaceae	Spider flower	Herb	8
39.	*Colocasia esculenta*	Araceae	Chempu	Herb	25
40.	*Colocasia gigantea*	Araceae	Elephant ear	Herb	3
41.	*Curculigo orchioides*	Hypoxidaceae	Golden eye grass	Herb	22
42.	*Cyanthillium cinereum*	Asteraceae	Poovankurunnil	Herb	300
43.	*Cynodon dactylon*	Poaceae	Grass	Herb	Numerous
44.	*Desmodium gangeticum*	Fabaceae	Orila	Herb	78
45.	*Dianthus caryophyllus*	Caryophyllaceae	Dianthus	Herb	2
46.	*Eclipta alba*	Asteraceae	Kayyonni	Herb	10
47.	*Ensite superbum*	Musaceae	Kalluvazha	Herb	8
48.	*Euphorbia hirta*	Euphorbiaceae	Asthma plant	Herb	150
49.	*Euphorbia pulcherrima*	Euphorbiaceae	Christmas plant	Herb	60
50.	*Euphorbia rosea*	Euphorbiaceae	Spurge	Herb	12
51.	*Gladiola* sp	Iridaceae	Gladiolus	Herb	1
52.	*Heliconia psittacorum*	Heliconiaceae	Heliconia	Herb	2
53.	*Hydrangea macrophylla*	Hydrangiaceae	Hydrangea	Herb	1
54.	*Ilysanthes reptans*	Scrophulariaceae	Creeping mazus	Herb	24
55.	*Ilysanthes serrata*	Scrophulariaceae	Hairy slitwort	Herb	22
56.	*Knoxia mullis*	Rubiaceae	Thaaravu	Herb	2
57.	*Lepidagathis cristata*	Acanthaceae	Crested lepidagathis	Herb	Many
58.	*Leportia*	Urticaceae	Aanachoruthanam	Herb	Many
59.	*Leucas aspera*	Lamiaceae	Thumba	Herb	30
60.	*Leucas minor*	Lamicaceae	Thumba	Herb	9
61.	*Mimosa pudica*	Mimosaceae	Thottavadi	Herb	123
62.	*Musa acuminata*	Musaceae	Banana	Herb	25

63.	*Musa paradisiaca*	Musaceae	Vazha	Herb	21
64.	*Oldenlandia umbellate*	Rubiaceae	Parpadaka pullu	Herb	40
65.	*Oxalis corniculata*	Oxalidaceae	Creeping wood sorrel	Herb	134
66.	*Peperomia pellucida*	Piperaceae	Mashithandu	Herb	25
67.	*Phyllanthus niruri*	Euphorbiaceae	Keezhar nelli	Herb	76
68.	*Phyllanthus urinaria*	Euphorbiaceae	Keezhar nelli	Herb	8
69.	*Physalis minima*	Solanaceae	Njottanjodiyan	Herb	14
70.	*Coleus aromaticus*	Lamiaceae	Panikoorka	Herb	3
71.	*Sansevieria trifasciata*	Asparagaceae	Pambu chedi	Herb	3
72.	*Scoparia dulcis*	Scrophulariacea	Kallurukki	Herb	257
73.	*Sida acuta*	Malvaceae	Kurunthotty	Herb	50
74.	*Sida veronacaefolia*	Malvaceae	Pazhapach	Herb	8
75.	*Spilanthus ciliata*	Asteraceae	Palluvedhanachedi	Herb	8
76.	*Tagetus erecetus*	Asteraceae	Marigold	Herb	2
77.	*Tradescantia*	Commelinaceae	Spider wort	Herb	4
78.	*Tragia involucrata*	Euphorbiaceae	Vallichoruthanam	Herb	320
79.	*Tridax procumbens*	Asteraceae	Thalavetti	Herb	200
80.	*Urtica dioica*	Urticaceae	Neltles	Herb	13
81.	*Zornia diphylla*	Fabaceae	Murikkotti	Herb	24
82.	*Evolvulus alsenoids*	Convovulaceae	Vishnukranthy	Prostrate Herb	157
83.	*Striga*	Scrophulariaceae	Witch weed	Root parasite	7
84.	*Acalypha hispida*	Euphorbiaceae	Poochavalan	Shrub	2
85.	*Adathoda vasica*	Acanthaceae	Malabar nut	Shrub	5
86.	*Aeschynomene americanum*	Fabaceae	Shy leaf	Shrub	16
87.	*Apama siliquosa*	Aristalochiaceae	Thottia	Shrub	8
88.	*Ardisia crenata*	Myrsinaceae	Christmas berry	Shrub	2
89.	*Baliospermum montananum*	Euphorbiaceae	Nagadhanthi	Shrub	23
90.	*Bougainvillae spectabilis*	Nyctaginaceae	Kadalasu chedi	Shrub	19
91.	*Callicarpa macrophylla*	Lamiaceae	Large leaf beauty berry	Shrub	2
92.	*Calotropis gigantea*	Asclepiadaceae	Erikku	Shrub	1
93.	*Capsicum fruitescence*	Solanaceae	Kanthari	Shrub	1
94.	*Catharanthus roseus*	Apocyanaceae	Shavanari	Shrub	4
95.	*Chromolaena odorata*	Asteraceae	Communist pacha	Shrub	45
96.	*Clerodendron infortunatum*	Verbenaceae	Peringalam	Shrub	63
97.	*Clerodendron paniculatum*	Verbenaceae	Krishnakireedam	Shrub	12
98.	*Holmskioldea sanguvianum*	Verbenaceae	Cup and saucer	Shrub	1
99.	*Costus pictus*	Zingiberaceae	Insulin chedi	Shrub	18
100.	*Crossandra infundibulforms*	Acanthaceae	Kanakamparam	Shrub	2
101.	*Desmodium gyrans*	Fabaceae	Indian Telegraph Plant	Shrub	69

102.	*Dracaena*	Asparagaceae	Dragon tree	Shrub	
103.	*Duranta plimerii*	Verbenaceae	Gold spot	Shrub	14
104.	*Ehretia microphylla*	Boraginaceae	Fukein tea tree	Shrub	6
105.	*Euphorbia heterophylla*	ceae	Euphorbia	Shrub	3
106.	*Euphorbia milii*	Euphorbiaceae	Mulchedi	Shrub	22
107.	*Euphorbia pulcherrima*	Euphorbiacae	Euphorbia	Shrub	14
108.	*Gardinia jasminoids*	Asteraceae	Gandharajan	Shrub	1
109.	*Hibiscus rosa-sinensis*	Malvaceae	Chemparuthy	Shrub	16
110.	*Ixora coccinea*	Rubiaceae	Chethi	Shrub	4
111.	*Jasminum grandiflorum*	Oleaceae	Jasmine	Shrub	8
112.	*Kopsia fruiticosa*	Apocynaceae	Kopsia	Shrub	1
113.	*Lantana camera*	Verbenaceae	Kongini	Shrub	9
114.	*Malvaviscuas arboreus*	Malvaceae	Mulaku chemparuthy	Shrub	1
115.	*Mannihot esculenta*	Euphorbiaceae	Kappa	Shrub	8
116.	*Mirabilis jalapa*	Nyctaginaceae	Nalumani chedi	Shrub	2
117.	*Morus alba*	Moraceae	Mulberry	Shrub	2
118.	*Murayya paniculata*	Rutaceae	Maramulla	Shrub	2
119.	*Ochna serrulata*	Ochnaceae	Micky Mouse plant	Shrub	1
120.	*Ocimum sanctum*	Lamiaceae	Thulasi	Shrub	4
121.	*Olea dioica*	Oleaceae	Edana	Shrub	1
122.	*Ricinus communis*	Euphorbiaceae	Avanakku	Shrub	44
123.	*Rivinia humulis*	Petiveriaceae	Pigeon berry	Shrub	12
124.	*Rosa indica*	Rosaceae	Rosa	Shrub	6
125.	*Sauropus androgynous*	Euphorbiaceae	Velicheera	Shrub	42
126.	*Solanum torvum*	Solanaceae	Cheruchunda	Shrub	4
127.	*Stachytarpheta cayennensis*	Verbenaceae	Chiravanakkan	Shrub	5
128.	*Tabernaemontana heyneana*	Apocyanaceae	Pulinakham pala	Shrub	2
129.	*Tabernemontana divaricata*	Apocyanaceae	Nanthyarvattam	Shrub	3
130.	*Tecoma stans*	Bignoniaceae	Yellow bells	Shrub	
131.	*Thunbergia erecta*	Acanthaceae	Bush clochrine	Shrub	2
132.	*Vitex altissima*	Verbenaceae	Peacock chaste tree	Shrub	1
133.	*Ficus emasperata*	Moraceae	Erumanakku	Small tree	14
134.	*Hamelia patens*	Rubiaceae	Hameia	Small tree	4
135.	*Lawsonia inermis*	Lythraceae	Mylanchi	Small tree	2
136.	*Murraya koeingii*	Rutaceae	Kariveppu	Small tree	11
137.	*Allamanda cathartica*	Apocyanaceae	Kolambi	Straggler	5
138.	*Clematis gouriana*	Ranunculaceae	Bridal bouquet	Straggler	1
139.	*Leea sambucina*	Vitaceae	Bandicoot berry	Straggler	7
140.	*Quisqualis indica*	Combretaceae	Osanappoovu	Straggler	70

141.	*Acacia auriculifomis*	Mimosaceae	Acacia	Tree	2
142.	*Acacia melanoxylon*	Mimosaceae	Acacia	Tree	11
143.	*Acacia mangium*	Mimosaceae	Mangium	Tree	9
144.	*Achras sapota*	Sapotaceae	Sapota	Tree	1
145.	*Adenanthera pavonina*	Fabaceae	Manjadi	Tree	1
146.	*Alstonia scholaris*	Apocyanaceae	Ezhilampala	Tree	10
147.	*Annona squamosa*	Annonaceae	Custard apple	Tree	7
148.	*Araucaria*	*Araucariaceae*	Monkey Puzzle Tree	Tree	2
149.	*Artocarpus heterophyllus*	Moraceae	Plavu	Tree	4
150.	*Artocarpus hirsutus*	Moraceae	Aanjili	Tree	59
151.	*Averrhoa bilimbi*	Oxalidaceae	Irumban puli	Tree	3
152.	*Averrhoa carambola*	Oxalidaceae	Carampuli	Tree	1
153.	*Azadirachta indica*	Meliaceae	Aryaveppu	Tree	8
154.	*Bauhinia purpurea*	Caesalpiniaceae	Mantharam	Tree	4
155.	*Borassus flabellifer*	Palmae	Fishtail Palm	Tree	23
156.	*Bridelia retusa*	Euphorbiaceae	Bridelia	Tree	10
157.	*Butea monosperma*	Fabaceae	Bastard teak	Tree	4
158.	*Caesalpinia pulcherrima*	Caesalpiniaceae	Rajamalli	Tree	2
159.	*Callistemon citrinus*	Myrtaceae	Bottle brush	Tree	2
160.	*Cananga odorata*	Annonaceae	Kattuchempakam	Tree	2
161.	*Carica papaya*	Caricaceae	Kappalam	Tree	8
162.	*Caryota urens*	Palmae	Fishtail palm	Tree	
163.	*Cassia fistula*	Ceasalpiniaceae	Kanikonna	Tree	5
164.	*Casuarina equisetifolia*	Casuarinaceae	Kattady	Tree	2
165.	*Chrysophyllum cainito*	Sapotaceae	Star apple	Tree	1
166.	*Cinnamomum tamala*	Lauraceae	Vayana	Tree	17
167.	*Citrus limon*	Rutaceae	Narakam	Tree	6
168.	*Citrus maxima*	Rutaceae	Kamblinarakam	Tree	1
169.	*Cocos nucifera*	Palmae	Thengu	Tree	7
170.	*Couroupita guianensis*	Lecithydaceae	Cannon ball tree	Tree	1
171.	*Delonix regia*	Fabaceae	Gulmohar	Tree	1
172.	*Dypsis lutescense*	Palmae	Yellow palm	Tree	26
173.	*Elaeis guineensis*	Palmae	Oil palm	Tree	19
174.	*Ficus benghalensis*	Moraceae	Peral	Tree	14
175.	*Lagestroemia speciosa*	Lythraceae	Manimaruthu	Tree	8
176.	*Limmonia acidissima*	Rutaceae	Wood apple	Tree	2
177.	*Macaranga peltata*	Euphorbiaceae	Vatta	Tree	35
178.	*Malpighia glabra*	Malpighiaceae	Wild cropemyrtle	Tree	6
179.	*Mangifera indica*	Anacardiaceae	Maavu	Tree	5
180.	*Michelia chempaka*	Magnoliaceae	Chempakam	Tree	4
181.	*Mimusops elengi*	Sapotaceae	Ilanji	Tree	3

182.	*Moringa oleifera*	Moringaceae	Drum stick	Tree	4
183.	*Muntingia calabura*	Muntingiaceae	Panchasara pazham	Tree	4
184.	*Nephelium lappaceum*	Sapindaceae	Rambutan	Tree	3
185.	*Peltophorum pterocarpum*	Caesalpiniaceae	Yellow flame tree	Tree	25
186.	*Phyllanthus emblica*	Euphorbiaceae	Nelli	Tree	4
187.	*Podocarpus macrophyllus*	Podocarpaceae	Plum pine	Tree	1
188.	*Polyalthia longifolia*	Annonaceae	Aranamaram	Tree	6
189.	*Pongamia pinnata*	Fabaceae	Ungu Pomgu	Tree	2
190.	*Psidium guajava*	Myrtaceae	Pera	Tree	14
191.	*Pterocarpus santalinus*	Fabaceae	Raktachandanam	Tree	2
192.	*Samanea saman*	Mimosaceae	Rain tree	Tree	9
193.	*Saraca indica*	Ceasalpiniaceae	Asokam	Tree	4
194.	*Simarouba glauca*	Simaroubaceae	Lakshmi tharu	Tree	2
195.	*Spondias mombin*	Anacardiaceae	Log plum	Tree	1
196.	*Swietenia macrophylla*	Meliaceae	Mahogony	Tree	11
197.	*Syzygium cumini*	Myrtaceae	Njaval	Tree	4
198.	*Syzygium jambosa*	Myrtaceae	Champa	Tree	1
199.	*Tamarindus indica*	Caesalpiniaceae	Puli	Tree	4
200.	*Tectona grandis*	Verbenaceae	Thekku	Tree	32
201.	*Terminalia catappa*	Combretaceae	Indian almond	Tree	14
202.	*Thuja*	Cupressaceae	White cedar	Tree	3
203.	*Cycas revolute*	Cycadaceae	Cycas	Xerophyte	2
204.	*Cycas circinalis*	Cycadaceae	Kana	Xerophyte	1

Table No. 1.g: Fruit Trees in the Campus

Sl. No	Scientific Name	Family	Common Name	Habit	No. of plants
1.	***Achras sapota***	Sapotaceae	Sapota	Tree	1
2.	***Ananas comosus***	Bromeliaceae	Kaidha chakka	Herb	3
3.	***Annona squamosa***	Annonaceae	Custard apple	Tree	7
4.	***Artocarpus heterophyllus***	Moraceae	Plavu	Tree	4
5.	***Artocarpus hirsutus***	Moraceae	Aanjili	Tree	59
6.	***Averrhoa bilimbi***	Oxalidaceae	Irumban puli	Tree	3
7.	***Averrhoa carambola***	Oxalidaceae	Carumpuli	Tree	1
8.	***Carica papaya***	Caricaceae	Kappalam	Tree	8
9.	***Citrus limon***	Rutaceae	Narakam	Tree	6
10.	***Citrus maxima***	Rutaceae	Kamblinarakam	Tree	1
11.	***Cocos nucifera***	Palmae	Thengu	Tree	7
12.	***Mangifera indica***	Anacardiaceae	Maavu	Tree	5
13.	***Musa acuminata***	Musaceae	Banana	Herb	25
14.	***Nephelium lappaceum***	Sapindaceae	Rambutan	Tree	3
15.	***Phyllanthus emblica***	Euphorbiaceae	Nelli	Tree	4
16.	***Psidium guajava***	Myrtaceae	Pera	Tree	14
17.	***Syzygium cumini***	Myrtaceae	Njaval	Tree	4
18.	***Syzygium jambosa***	Myrtaceae	Champa	Tree	1
19.	***Tamarindus indica***	Caesalpiniaceae	Puli	Tree	4

Table No. 1.h: List of Plants in the Botanical Garden in the Campus

Sl. No.	Scientific name	Family	Common Name	Habit	No. of Plants
1.	*Acalypha hispida*	Euphorbiaceae	Poochavalan	Shrub	2
2.	*Acalypha indica*	Euphorbiaceae	Indian Nettle	Herb	12
3.	*Achyranthes aspera*	Amaranthaceae	Cherukadalaadi	Herb	5
4.	*Adathoda vasica*	Acanthaceae	Malabar nut	Shrub	5
5.	*Adenanthera pavonina*	Fabaceae	Manjadi	Tree	1
6.	*Aerva lanata*	Amaranthaceae	Kozhuppa	Herb	750
7.	*Aeschynomene americanum*	Fabaceae	Shy leaf	Shrub	16
8.	*Allamanda cathartica*	Apocyanaceae	Kolambi	Straggler	5
9.	*Alternanthera sessilis*	Amranthaceae	Ponnariveeran	Herb	4
10.	*Alysicarpus*	Fabaceae	Alyce clover	Herb	2

11.	*Ananas comosus*	Bromeliaceae	Kaidha chakka	Herb	3
12.	*Andrographis paniculata*	Acantahaceae	Green chircta	Herb	11
13.	*Anisomeles indica*	Lamiaceae	Catmint	Herb	4
14.	*Anthurium sps*	Araceae	Anthurium	Herb	16
15.	*Antigonon leptopus*	Polygonaceae	Coral wine	Climber	4
16.	*Apama siliquosa*	Aristalochiaceae	Thottea	Shrub	8
17.	*Ardisia crenata*	myrsinaceae	Christmas berry	Shrub	2
18.	*Asparagas rcemosus*	Asparagaceae	Shadaveri	Climber	2
19.	*Baliospermum montananum*	Euphorbiaceae	Nagadhanthi	Shrub	23
20.	*Bambusoideae*	Poaceae	Bamboo	Herb	6
21.	*Bignonia sps*	Bignoniaceae	Bignonia	Climber	13
22.	*Biophytum sensitivum*	Oxalidaceae	Mukkutti	Herb	80
23.	*Boerrhavia diffusa*	Nyctaginaceae	Thazhuthama	Herb	67
24.	*Bougainvillae spectabilis*	Nyctaginaceae	Kadalasu chedi	Shrub	19
25.	*Calathea lutea*	Marantaceae	Zebra plant	Herb	14
26.	*Calathia freddie*	Marataceae	Prayer plant	Herb	3
27.	*Callicarpa macrophylla*	Lamiaceae	Large leaf beauty berry	Shrub	2
28.	*Calotropis gigantean*	Asclepiadaceae	Erikku	Shrub	1
29.	*Capsicum fruitescence*	Solanaceae	Kanthari	Shrub	1
30.	*Cardiospermum halicacabum*	Sapindaceae	Valliuzhinja	Climber	2
31.	*Catharanthus roseus*	Apocyanaceae	Shavanari	Shrub	4
32.	*Cayratia pedata*	Vitaceae	Birdfoot grape vine	Climber	11
33.	*Centella asiatica*	Apiaceae	Kudangal	Herb	22
34.	*Chlorophytum comosum*	Asparagaceae	Spider plant	Herb	5
35.	*Chromolaena odorata*	Asteraceae	Communist pacha	Shrub	45
36.	*Chrysophyllum cainito*	Sapotaceae	Star apple	Tree	1
37.	*Clematis*	Ranunculaceae	Gourian clematis	Straggler	1

	gouriana				
38.	*Cleome viscosa*	Capparidaceae	Spider flower	Herb	8
39.	*Clerodendron infortunatum*	Verbenaceae	Peringalam	Shrub	63
40.	*Clitoria ternata*	Fabaceae	Shangupushpam	Climber	8
41.	*Cobaea scandens*	Polymoniaceae	Cup and saucer	Shrub	1
42.	*Coccnia cordifolia*	Cucurbitaceae	Koval	Climber	4
43.	*Colocasia esculenta*	Araceae	Chempu	Herb	25
44.	*Colocasia gigantea*	Araceae	Elephant ear	Herb	3
45.	*Costus pictus*	Zingiberaceae	Insulin chedi	Shrub	18
46.	*Crossandra infundibulforms*	Acanthaceae	Kanakamparam	Shrub	2
47.	*Cucumis sativus*	Cucurbitaceae		Creeper	1
48.	*Curculigo orchioides*	Hypoxidaceae	Golden eye grass	Herb	22
49.	*Cyanthillium cinereum*	Asteraceae	Poovankurunnil	Herb	300
50.	*Cycas sps*	Cycadaceae	Cycas	Xerophyte	2
51.	*Cyclea peltata*	Menispermaceae		Climber	3
52.	*Cynodon dactylon*	Poaceae	Grass	Herb	250
53.	*Desmodium gangeticum*	Fabaceae	Orila	Herb	78
54.	*Desmodium spc*	Fabaceae		Herb	69
55.	*Dianthus caryophyllus*	Caryophyllaceae	Dianthus	Herb	2
56.	*Dorstenia sps*	Moraceae		Herb	14
57.	*Dracaena*	Asparagaceae	Dragon tree	Shrub	
58.	*Drynaria*	Polypodiaceae	Drynaria		16
59.	*Duranta plimerii*	Verbenaceae	Gold spot	Shrub	14
60.	*Dypsis lutescense*	Palmae	Yellow palm	Tree	
61.	*Eclipta alba*	Asteraceae	Kayyonni	Herb	10
62.	*Ehretia microphylla*	Boraginaceae	Fukein tea tree	Shrub	6
63.	*Ensite superbum*	Musaceae	Kalluvazha	Herb	4
64.	*Epipremnum aureum*	Araceae	Money plant	Climber	
65.	*Euphorbia heterophylla*	Euphorbiaceae	Euphorbia	Shrub	3
66.	*Euphorbia hirta*	Euphorbiaceae	Asthma plant	Herb	150

67.	*Euphorbia milii*	Euphorbiaceae	Mulchedi	Shrub	22
68.	*Euphorbia pulcherrima*	Euphorbiaceae	Christmas flower	Herb	60
69.	*Euphorbia pulcherrima*	Euphorbiacae	Euphorbia	Shrub	14
70.	*Euphorbia rosea*	Euphorbiaceae	Spurge	Herb	12
71.	*Evolvulus alsenoids*	Convovulaceae	Vishnukranthy	Prostrate Herb	157
72.	*Ficus emasperata*	Moraceae	Erumanakku	Small tree	14
73.	*Gardinia jasminoids*	Asteraceae	Gandharajan	Shrub	1
74.	*Gladiola sps*	Iridaceae	Gladiola	Herb	1
75.	*Hamelia patens*	Rubiaceae	Hamilia	Small tree	4
76.	*Heliconia psittacorum*	Heliconiaceae	Heliconia	Herb	2
77.	*Hibiscus rosa-sinensis*	Malvaceae	Chemparuthy	Shrub	16
78.	*Hydrangea Macrophylla*	Hydrangiaceae	Hydrangea	Herb	1
79.	*Ilysanthes reptans*	Scrophulariaceae	Creeping mazus	Herb	24
80.	*Ilysanthes serrate*	Scrophulariaceae	Hairy slitwort	Herb	22
81.	*Ixora coccinea*	Rubiaceae	Chethi	Shrub	4
82.	*Jasminum grandiflorum*	Oleaceae	Jasmine	Shrub	8
83.	*Knoxia sps*	Rubiaceae		Herb	2
84.	*Lantana camera*	Verbenaceae	Kongini	Shrub	9
85.	*Lawsonia inermis*	Lythraceae	Mylanchi	Small tree	2
86.	*Leea sambucina*	Vitaceae	Bandicoot berry	Straggler	7
87.	*Lepidagathis cristata*	Acanthaceae	Crested lepidagathis	Herb	
88.	*Leucas aspera*	Lamiaceae	Thumba	Herb	30
89.	*Leucas minor*	Lamicaceae		Herb	9
90.	*Malvaviscuas arboreus*	Malvaceae	Mulaku chemparuthy	Shrub	1
91.	*Mannihot esculenta*	Euphorbiaceae	Kappa	Shrub	8
92.	*Merremia vitifolia*	Convovulaceae	Wood rose	Climber	43
93.	*Mikania scandens*	Asteraceae	Hempweed	Climber	120
94.	*Mikania scandens*	Asteraceae		Herb	2
95.	*Mimosa pudica*	Mimosaceae	Thottavadi	Herb	123
96.	*Mirabilis jalapa*	Nyctaginaceae	Nalumani chedi	Shrub	2

97.	*Monstera delisiosa*	Araceae	Aanathippali	Epiphyte	3
98.	*Morus*	Moraceae	Mulberry	Shrub	2
99.	*Murayya paniculata*	Rutaceae	Maramulla	Shrub	2
100.	*Musa acuminata*	Musaceae	Banana	Herb	25
101.	*Musa paradisiaca*	Musaceae	Vazha	Herb	21
102.	*Mussaenda sps*	Rubiaceae	Mussaenda	Shrub	2
103.	*Ochna serrulata*	Ochnaceae	Micky mouse plant	Shrub	1
104.	*Ocimum sanctum*	Lamiaceae	Thulasi	Shrub	4
105.	*Oldenlandia spc*	Rubiaceae		Herb	40
106.	*Olea dioica*	Oleaceae	Mulla	Shrub	1
107.	*Oxalis corniculata*	Oxalidaceae	Creeping wood sorrel	Herb	134
108.	*Peperomia pellucida*	Piperaceae	Mashithandu	Herb	25
109.	*Phyllanthus*	Euphorbiaceae	Keezhar nelli	Herb	76
110.	*Phyllanthus urinaria*	Euphorbiaceae	Gripe weed	Herb	8
111.	*Physalis minima*	Solanaceae	Wild cape gooseberry	Herb	14
112.	*Piper nigrum*	Piperaceae	Kurumulaku	Climber	7
113.	*Plectranthus ambonicus*	Lamiaceae	Panikoorka	Herb	3
114.	*Pothos scandens*	Araceae	Anaparna	Epiphyte	3
115.	*Puesaria mirifica*	Fabaceae	Kwao krua	Creeper	103
116.	*Quisqualis indica*	Combretaceae	Osanappoovu	Straggler	70
117.	*Ricinus communis*	Euphorbiaceae	Avanakku	Shrub	44
118.	*Rivinia humulis*	Petiveriaceae	Pigeon berry	Shrub	12
119.	*Rosa indica*	Rosaceae	Rosa	Shrub	6
120.	*Sansevieria trifasciata*	Asparagaceae	Pambu chedi	Herb	3
121.	*Saraca indica*	Ceasalpiniaceae	Asokam	Tree	4
122.	*Sauropus androgynous*	Euphorbiaceae	Velicheera	Shrub	42
123.	*Scoparia dulcis*	Scrophulariacea	Kallurukki	Herb	257
124.	*Sida acuta*	Malvaceae	Kurunthotty	Herb	50
125.	*Solanum torvum*	Solanaceae	Cheruchunda	Shrub	4
126.	*Solena sps*	Cucurbitaceae	Creeping cucumber	Creeper	7
127.	*Spilanthus ciliata*	Asteraceae	Palluvedhanachedi	Herb	8

128.	*Stachytarpheta cayennensis*	Verbenaceae	Chiravanakkan	Shrub	5
129.	*Striga*	Scrophulariaceae	Witch weed	Root parasite	7
130.	*Syzygium jambosa*	Myrtaceae	Champa	Tree	1
131.	*Tabernaemontana heyneana*	Apocyanaceae	Kunninpala	Shrub	2
132.	*Tabernemontana divaricata*	Apocyanaceae	Nanthyarvattam	Shrub	3
133.	*Tagetus erecetus*	Asteraceae	Marigold	Herb	2
134.	*Tecoma stans*	Bignoniaceae	Yellow bells	Shrub	
135.	*Thuja*		White cedar		3
136.	*Thunbergia erecta*	Acanthaceae	Bush clockwine	Shrub	2
137.	*Thunbergia grandiflora*	Acanthaceae	Bengal clock wine	Climber	9
138.	*Tradescantia*	Commelinaceae	Spider wort	Herb	
139.	*Tragia involucrata*	Euphorbiaceae	Indian stinging nettle	Herb	320
140.	*Tridax procumbens*	Asteraceae	Thalavetti	Herb	200
141.	*Urtica dioica*	Urticaceae	Neltles	Herb	13
142.	*Vanilla planifolia*	Orchidaceae	Vanilla	Epiphyte	1
143.	*Vitex altissima*	Verbenaceae	Peacock chaste tree	Shrub	1
144.	*Zornia diphylla*	Fabaceae	Murikkotti	Herb	24

Table No. 1.i: List of medicinal plants in the herbal garden

SL NO	SCIENTIFIC NAME	FAMILY
1.	*Leucas aspera*	Lamiaceae
2.	*Aristochia indica*	Aristolochaiceae
3.	*Adathoda vascica*	Acanthaceae
4.	*Aerva Lanata*	Amaranthaceae
5.	*Aloe vera*	Asphodelaceae
6.	*Alpinia calcarata*	Zingiberaceae
7.	*Alstonia venenata*	Apocyanaceae
8.	*Asparagus racemosus*	Asparagaceae
9.	*Bacopa monnieri*	Scrophuariaceae
10.	*Baliospermum montanum*	Euphorbiaceae
11.	*Biophytum sensitivum*	Oxalidaceae
12.	*Calamus rotang*	Arecaceae
13.	*Calotropis gigantea*	Asclepiadaceae

14.	*Chamaecostus cuspidatus*	Costaceae
15.	*Chlorophytum borivilianum*	Asparagaceae
16.	*Cissus quadrangularis*	Vitaceae
17.	*Coccinia grandis*	Cucurbitaceae
18.	*Codariocalyx motorius*	Fabaceae
19.	*Coleus aromaticus*	Laminaceae
20.	*Colocasia esculanta*	Aracacea
21.	*Curculigo orchioides*	Amaryllidaceae
22.	*Curcuma aromatica*	Zingiberaceae
23.	*Cynodon dactylon*	Poaceae
24.	*Elettaria cardomomum*	Zingiberaceae
25.	*Gloriosa superba*	Liliaceae
26.	*Kaempferia galanga*	Zingiberaceae
27.	*Kyllinga nemoralis*	Cyperaceae
28.	*Leucas zeylanica*	Lamiaceae
29.	*Morus alba*	Urticaceae
30.	*Murraya koenigii*	Rutaceae
31.	*Myxopyrum serratulum*	Oleaceae
32.	*Naregamia alata*	Meliaceae
33.	*Ocimum tenuiflorum*	Lamiaceae
34.	*Oxalis corniculata*	Geraniaceae
35.	*Phyllanthus niruri*	Euphorbiaceae
36.	*Pimenta dioica*	Myrtaceae
37.	*Piper longum*	Piperaceae
38.	*Piper nigrum*	Piperaceae
39.	*Ricinus communis*	Euphorbiaceae
40.	*Saccharum munja*	Poaceae
41.	*Saraca asoka*	Caesalpiniaceae
42.	*Solanum torvum*	Solanaceae
43.	*Stereospermum chelonoides*	Bignoniaceae
44.	*Swertia chirata*	Gentianaceae
45.	*Tinospora cordifolia*	Menispermaceae
46.	*Thottea siliquosa*	aristolochiaceae
47.	*Trichopus zeylanicus*	Trichopodaceae
48.	*Vetiveria zizanioides*	Poaceae
49.	*Flacourtia montana*	Salicaceae
50.	*Menisperma*	Menispermaceae
51.	*Bignonia*	Bignoniaceae
52.	*Cymbopogon citratus*	Poaceae
53.	*Rivina humilis*	Phytolaccaceae
54.	*Justitia genderrusa*	Acanthaceae
55.	*Magidia*	Sapindaceae
56.	*Clerodendron infortunatum*	Verbenaceae
57.	*Olea dioica*	Oleaceae

58.	*Euphorbia tirucalli*	Euphorbiaceae
59.	*Simarouba glauca*	Simaroubaceae
60.	*Andrographis paniculata*	Acanthaceae

Crops cultivated in the campus (Area for cultivation- 1 Acre)

Banana, Tapioca, Chilly, Tomato, Spinach, Bitter gourd, Brinjal,Ladies finger, Pea, Papaya, Coconut

Campus farming - Jaivam

Under the auspices of the department of Social Work, a novel venture of upland cultivation of organic paddy was successfully conducted in a 30 cent area of the campus. Organic vegetable cultivation as interim crop is another plan to be materialised soon. The college has also cultivated plantain and tapioca in the backyard of the campus.The NSS units in the campus has been consistently undertaking vegetable cultivation of monsoon, winter and summer crops and conducting the sale of the products among the community.

Table No.2.a

Avian Fauna (Birds) in Mar Thoma College Campus, Tiruvalla

Sl. No.	**Scientific Name**	**Common Name**
1.	*Accipiter badius*	Shikra
2.	*Acridotheres fuscus*	Jungle myna
3.	*Acridotheres tristis*	Common myna
4.	*Aegithina tiphia*	Iora
5.	*Amaurornis phoenicurus*	White breasted water hen
6.	*Anhinga melanogaster*	Oriental darter
7.	*Ardea intermedia*	Intermediate egret
8.	*Ardeola grayii*	Indian pond heron
9.	*Athene brama*	Spotted Owlet
10.	*Bubulcus ibis*	Cattle egret
11.	*Centropus sinensis*	Greater Coucal
12.	*Cinnyris lotenius*	Loten’s sunbird
13.	*Columbia livia*	Blue Rock Pigeon
14.	*Copsychus saularis*	Oriental Magpie Robin
15.	*Coracius benghalensis*	Southern Indian Rolller
16.	*Corvus macrorhyncus*	Jungle Crow
17.	*Corvus splendens*	Common Crow
18.	*Dendrocitta vagabunda*	Rufous treepie
19.	*Dendrocygna javanica*	Lesser whistling duck
20.	*Dicaeum erythrorhynchos*	Pale billed flower pecker

21.	*Dicrurus macrocerus*	Black Drongo
22.	*Dicrurus paradiseus*	Greater Racket Tailed Drongo
23.	*Dinopium benghalense*	Black rumped flameback
24.	*Eudynanamys scolopacea*	Asian Koel
25.	*Glaucidium radiatum*	**Jungle owlet**, or barred **jungle owlet**
26.	*Halcyon smyrnensis*	White-Breasted Kingfisher
27.	*Haliaster indus*	Brahminy Kite
28.	*Hieriococcyx varius*	Brain Fever Bird (common hawk-cuckoo)
29.	*Lonchura malacca*	Black Headed Munia
30.	*Lonchura striata*	White rumped munia
31.	*Megalaima viridis*	White Cheeked Barbet
32.	*Merops philippinus*	Blue-tailed bee eater
33.	*Microcarbo niger*	Little Cormorant
34.	*Milvus migrans*	Black kite
35.	*Musciapa ruficauda*	Rusty Tailed Flycatcher
36.	*Myophonus horsfieldii*	Malabar whistling thrush
37.	*Nectarina asiatica*	Purple Sunbird
38.	*Nectarina zeylanica*	Purple Rumped Sun-Bird
39.	*Nycticorax nycticorax*	Black-Crowned Night Heron
40.	*Oriolus oriolus*	Golden Oriole
41.	*Oriolus xanthornus*	Black hooded oriole
42.	*Orthotomus sutorius*	Common tailor bird
43.	*Otus bakkamoena*	**Indian scops owl**
44.	*Parus cinereus*	Cinereous tit
45.	*Psittacula krameri*	Rose Ringed Parakeet
46.	*Pycnonotus cafer*	Red Vented Bulbul
47.	*Pycnonotus jocosus*	Red-Whiskered Bulbul
48.	*Streptopelia chinensis*	Spotted Dove
49.	*Sturnia blythii*	Malabar Starling
50.	*Terpsiphone paradisi*	Paradise flycatcher
51.	*Treron affinis*	Grey fronted green pigeon
52.	*Turdoides striatus*	Jungle Babbler
53.	*Turdoides subrifus*	Indian Ruffous Babbler
54.	*Vanellus indicus*	Red wattled lapwing

Table No.2 b

Ant Fauna (Location: Kuttapuzha Canal Area)

Sl. No.	SPECIES NAME	Common Name
1.	*Anoplolepis gracilipes*	Yellow crazy ant
2.	*Camponotus sericeus*	Carpenter ant
3.	*Camponotus compressus*	Common Godzilla Ant
4.	*Cardiocondyla emeryi*	

5.	*Crematogaster pilosa*	
6.	*Crematogaster* sp.	
7.	*Diacamma* sp.	
8.	*Lobopelta* Linn.	
9.	*Myrmicaria brunnea*	
10.	*Myrmicaria saunder*	
11.	*Myrmicaria* sp.	
12.	*Odontomacchus* sp.	Greater trap jaw ant
13.	*Odontomachus haematodus*	Greater trap jaw ant
14.	*Oecophylla smaragdina*	Weaver ant
15.	*Paratrechina longicornis*	Longhorn crazy ant
16.	*Pheidole* sp.	African big-headed ant
17.	*Pheidologeton* sp.	Marauder ant
18.	*Polyergus* sp.	Amazon ants
19.	*Polyrhachis* sp.	Chinese black Mountain Ant
20.	*Solenopsis geminate*	Fire ants
21.	*Tapinoma melanocephalum*	Ghost ant
22.	*Technomyrmex albipes*	White-footed ant

Table No.2 c

Spider Fauna (Location: Mar Thoma College Campus and Hostel)

Sl. No.	SPECIES NAME	Common Name
1.	*Hersilia*	Long-spinnered bark spiders
2.	*Loxosceles reclusa*	Brown spider
3.	Lycosidae	Wolf spiders
4.	*Parasteatoda tepidariorum*	Common house spider
5.	*Peucetia viridans*	Green lynx spider
6.	*Philodromus* spp.	Running crab spiders
7.	Pholcidae	Cellar spiders
8.	Plexippus	Jumping spiders
9.	Salticidae	Jumping spiders
10.	Sparassidae	Huntsman spider

Table No.2 d

Butterfly fauna (Location: Mar Thoma College, Tiruvalla)

Sl. No.	SCIENTIFIC NAME	Common Name
1.	*Acraea violae*	Tawny Coster
2.	*Catopsilia pomona*	Common Emigrant or Lemon Emigrant
3.	*Chilades pandava*	Plain Cupid or Cycad Blue
4.	*Delias eucharis*	Common Jezebel
5.	*Euploea core*	Common Crow

6.	*Eurema hecabe*	Common Grass Yellow
7.	*Jamides celeno*	Common Cerulean
8.	*Junonia atlities*	Grey Pansy
9.	*Leptosia nina*	Wandering Psyche
10.	*Melanitis leda*	Common Evening Brown
11.	*Orsotriaena medus*	Smooth-eyed Bushbrown
12.	*Pachliopta aristolochiae*	Common Rose
13.	*Pachliopta hector*	Crimson Rose
14.	*Papilio polymnestor*	Blue mormon
15.	*Parantica aglea*	Glassy Tiger
16.	*Tirumala limniace*	Blue Tiger
17.	*Troides minos*	Southern Birdwing
18.	*Ypthima baldus*	Common five-ring

Table No.2 e

Reptiles (Location: Mar Thoma College Campus)

Sl. No.	SPECIES NAME	
1.	*Calotes versicolor*	Oriental garden lizard
2.	*Hemidactylus frenatus*	common house gecko
3.	*Mabuya mabuya*	Skink
4.	*Procellosaurinus tetradactylus*	lizard

Table No.2 f

Mammals (Location: College Buildings and premises)

Sl. No.	SPECIES NAME	**Common Name**
1.	*Rattus norvegicus domesticus*	House rat
2.	*Pachyuromys dupras*	House mouse
3.	*Felis domestica*	*Cat*
4.	*Canis lupus familiaris*	Dog (outside the campus)
5.	*Paradoxurus hermaphroditus*	Palm civet
6.	*Chiroptera*	Bat
7.	*Neopteryx frosti*	**Small**-toothed fruit **bat**
8.	*Funambulus palmarum*	**Indian palm squirrel**

Table No.2 g

Other Common Fauna

Sl. No.	Organism

1.	Antlion
2.	Beetles
3.	*Drosophila melanogaster* (Fruit fly)
4.	Earth worms
5.	Apis dorsata (Honey bees)
6.	Melipona (Small bee)
7.	Ladybird
8.	Millipede
9.	Moth
10.	*Musca domestica* (House fly)
11.	Pygmy grasshopper
12.	Fire fly
13.	Scolopendra
14.	Short-horned grasshopper
15.	Snails
16.	Termite
17.	Wasp

Haritha Keralam - Distribution List of plants and beneficiaries during the year

SL NO.	NAME OF RECIPIENT	UG/PG/TC/NT	DEPT	ADDRESS	PHONE NO	PLANT GIVEN	*SCIENTIFIC NAME*
1	ADARSH	UG	CHEM	CNGY	7356763935	GOOSE BERRY	*Phyllanthus emblica*
2	ADARSH	UG	CHEM	CNGY	7356763935	SEETHAPAZHAM	*Annona squamosa*
3	ADARSH	UG	CHEM	CNGY	7356763935	SEETHAPAZHAM	*Annona squamosa*
4	ADARSH	UG	CHEM	CNGY	7356763935	WOOD APPLE	*Limonia acidissima*
5	ADARSH	UG	CHEM	CNGY	7356763935	GUAVA	*Psidium guajava*
6	ADARSH	UG	CHEM	CNGY	7356763935	NEEM	*Azadirachta indica*
7	ADARSH	UG	CHEM	CNGY	7356763935	MATHALAM	*Punica granatum*
8	ADARSH	UG	CHEM	CNGY	7356763935	BAMBOO	*Bambusa sps.*
9	MUHAMMED MUSTHAFA	UG	CHEM	MAVELIKKARA	8848748088	GOOSE BERRY	*Phyllanthus emblica*
10	MUHAMMED MUSTHAFA	UG	CHEM	MAVELIKKARA	8848748088	GUAVA	*Psidium guajava*
11	MUHAMMED MUSTHAFA	UG	CHEM	MAVELIKKARA	8848748088	NEEM	*Azadirachta indica*
12	MUHAMMED MUSTHAFA	UG	CHEM	MAVELIKKARA	8848748088	BAMBOO	*Bambusa sps.*
13	AKHIL	UG	POLITICS	KTM	9995330358	WOOD APPLE	*Limonia acidissima*
14	AKHIL	UG	POLITICS	KTM	9995330358	LAKSHMITHARU	*Simarouba glauca*
15	AKHIL	UG	POLITICS	KTM	9995330358	BAMBOO	*Bambusa sps.*
16	AKHIL	UG	POLITICS	KTM	9995330358	WOOD APPLE	*Limonia acidissima*
17	AKHIL	UG	POLITICS	KTM	9995330358	NEEM	*Azadirachta indica*
18	AKHIL	UG	POLITICS	KTM	9995330358	KANIKONNA	*Cassia fistula*
19	AKHIL	UG	POLITICS	KTM	9995330358	CITRUS	*Citrus limon*

20	JOSMIN	TC	CHEM	PATTAMPUZHA	8281486981	KUMIZH	*Gmelina arborea*
21	JOSMIN	TC	CHEM	PATTAMPUZHA	8281486981	GUAVA	*Psidium guajava*
22	JOSMIN	TC	CHEM	PATTAMPUZHA	8281486981	GOOSE BERRY	*Phyllanthus emblica*
23	JOSMIN	TC	CHEM	PATTAMPUZHA	8281486981	SEETHAPAZHAM	*Annona squamosa*
24	RENI	TC	CHEM	TVLA	9447114488	KARIVEPPU	*Murraya koenigii*
25	RENI	TC	CHEM	TVLA	9447114488	SEETHAPAZHAM	*Annona squamosa*
26	ATHILA HUSSAIN	UG	ENG	KAYAMKULAM	9447174285	GUAVA	*Psidium guajava*
27	ATHILA HUSSAIN	UG	ENG	KAYAMKULAM	9447174285	LAKSHMITHARU	*Simarouba glauca*
28	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	NEEM	*Azadirachta indica*
29	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	NEEM	*Azadirachta indica*
30	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	LAKSHMITHARU	*Simarouba glauca*
31	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	LAKSHMITHARU	*Simarouba glauca*
32	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	GOOSE BERRY	*Phyllanthus emblica*
33	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	BAMBOO	*Bambusa sps.*
34	ASHWATHY RAMESH	UG	B.COM	OTHERA	9656341790	MATHALAM	*Punica granatum*
35	SHARADHA	PG	MICRO BIO	TVM	9495742050	LAKSHMITHARU	*Simarouba glauca*
36	SHARADHA	PG	MICRO BIO	TVM	9495742050	MATHALAM	*Punica granatum*
37	SHARADHA	PG	MICRO BIO	TVM	9495742050	AGASTHYACHEERA	*Sesbania grandiflora*
38	SHARADHA	PG	MICRO BIO	TVM	9495742050	SEETHAPPAZHAM	*Annona grandiflora*
39	KARTHIKA	PG	BOT	KUMALI	9656242093	AGASTHYACHEERA	*Sesbania grandiflora*
40	KARTHIKA	PG	BOT	KUMALI	9656242093	SEETHAPPAZHAM	*Annona squamosa*
41	KARTHIKA	PG	BOT	KUMALI	9656242093	MANTHARAM	*Bauhinia acuminata*
42	SONIYA	PG	BOT	IDUKKI	9061071872	SEETHAPAZHAM	*Annona squamosa*
43	SONIYA	PG	BOT	IDUKKI	9061071872	AGASTHYACHEERA	*Sesbania grandiflora*
44	SONIYA	PG	BOT	IDUKKI	9061071872	NEEM	*Azadirachta indica*
45	SHREYAS	PG	BOT	KUMALI	9496180163	AGASTHYACHEERA	*Sesbania grandiflora*
46	JAQUILINE MATHEW	PG	BOT	KTPNA	9447600264	POMEGRANATE	*Punica granatum*
47	JAQUILINE MATHEW	PG	BOT	KTPNA	9447600264	WOOD APPLE	*Limonia acidissima*
48	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	BAMBOO	*Bambusa sps.*
49	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	BAMBOO	*Bambusa sps.*
50	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	GOOSE BERRY	*Phyllanthus emblica*
51	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	GOOSE BERRY	*Phyllanthus emblica*
52	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	CITRUS	*citrus limon*
53	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	POMEGRANATE	*Punica granatum*
54	AISWARYA S MADHU	PG	BOT	CHUNAKKARA	8606075261	WOOD APPLE	*Limonia acidissima*

55	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	LAKSHMITHARU	*Simarouba glauca*
56	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	LAKSHMITHARU	*Simarouba glauca*
57	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	BAMBOO	*Bambusa sps.*
58	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	LAKSHMITHARU	*Simarouba glauca*
59	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	LAKSHMITHARU	*Simarouba glauca*
60	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	EETY	*Dalbergia latifolia*
61	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	EETY	*Dalbergia latifolia*
62	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	EETY	*Dalbergia latifolia*
63	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	EETY	*Dalbergia latifolia*
64	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	EETY	*Dalbergia latifolia*
65	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	MAHAGONY	*Swietenia mahagoni*
66	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	MAHAGONY	*Swietenia mahagoni*
67	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	MANTHARAM	*Bauhinia acuminata*
68	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	MANTHARAM	*Bauhinia acuminata*
69	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	MANTHARAM	*Bauhinia acuminata*
70	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	NEEM	*Azadirachta indica*
71	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	GUAVA	*Psidium guajava*
72	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	SEETHAPAZHAM	*Annona squamosa*
73	HAPPY KRISHNAN	TC	BIOSCIENCE	CNGY	9633668631	SEETHAPAZHAM	*Annona squamosa*
74	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	EETY	*Dalbergia latifolia*
75	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	EETY	*Dalbergia latifolia*
76	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	GOOSE BERRY	*Phyllanthus emblica*
77	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	GOOSE BERRY	*Phyllanthus emblica*
78	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	GUAVA	*Psidium guajava*
79	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	SEETHAPAZHAM	*Annona squamosa*
80	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	SEETHAPAZHAM	*Annona squamosa*
81	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	WOOD APPLE	*Limonia acidissima*
82	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	GUAVA	*Psidium guajava*
83	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	BAMBOO	*Bambusa spcs.*
84	JIBY ABHRAHAM	TC	BIOSCIENCE	MLPY	9747332185	MAHAGONY	*Swietenia mahagoni*
85	ANOOP VIJAYAN	TC	BIOSCIENCE			AGASTHYACHEERA	*Sesbania grandiflora*
86	ANOOP VIJAYAN	TC	BIOSCIENCE			WOOD APPLE	*Limonia acidissima*
87	ANOOP VIJAYAN	TC	BIOSCIENCE			GOOSE BERRY	*Ribus uva-crispa*
88	ANOOP VIJAYAN	TC	BIOSCIENCE			LAKSHMITHARU	*Simarouba glauca*

89	DONA DENNY	PASS OUT	BOT	OTHERA	7510882056	WOOD APPLE	*Limonia acidissima*
90	DONA DENNY	PASS OUT	BOT	OTHERA	7510882056	SEETHAPAZHAM	*Annona squamosa*
91	ALEENA JOSE	PASS OUT	BOT	ANJILITHANAM	9446494229	GOOSEBERRY	*Phyllanthus emblica*
92	RESHMI	PASS OUT	BOT	MULAKKUZHA	9961753706	WOOD APPLE	*Limonia acidissima*
93	SANGEETH	UG	POLITICS	NIRANAM	7034214357	EETY	*Dalbergia latifolia*
94	SANGEETH	UG	POLITICS	NIRANAM	7034214357	LAKSHMITHARU	*Simarouba glauca*
95	SANGEETH	UG	POLITICS	NIRANAM	7034214357	LAKSHMITHARU	*Simarouba glauca*
96	ARYA RAMESH	UG	BOT	KTR	9207733808	EETY	*Dalbergia latifolia*
97	SEREENE THOMAS	TC	CHEM	TVLA	9562203900	AGASTHYACHEERA	*Sesbania grandiflora*
98	SEREENE THOMAS	TC	CHEM	TVLA	9562203900	MATHALAM	*Punica granatum*
99	DEEPU A	TC	BOT	PEYAD	9995147440	EETY	*Dalbergia latifolia*
100	DEEPU A	TC	BOT	PEYAD	9995147440	EETY	*Dalbergia latifolia*
101	ELIZABETH T MANGATTU	TC	BOT		9895302110	GUAVA	*Psidium guajava*
102	ELIZABETH T MANGATTU	TC	BOT		9895302110	LAKSHMITHARU	*Simarouba glauca*
103	ELIZABETH T MANGATTU	TC	BOT		9895302110	LAKSHMITHARU	*Simarouba glauca*
104	AMRUTHA	UG	BOT	PTPM	9495955067	LAKSHMITHARU	*Simarouba glauca*
105	AMRUTHA	UG	BOT	PTPM	9495955067	WOOD APPLE	*Limonia acidissima*
106	AMRUTHA	UG	BOT	PTPM	9495955067	SEETHAPAZHAM	*Annona squamosa*
107	AMRUTHA	UG	BOT	PTPM	9495955067	GUAVA	*Psidium guajava*
108	AMRUTHA	UG	BOT	PTPM	9495955067	AGASTHYACHEERA	*Sesbania grandiflora*
109	FEBA ANTONY	UG	BOT	TDPA	9496711623	LAKSHMITHARU	*Simarouba glauca*
110	FEBA ANTONY	UG	BOT	TDPA	9496711623	GUAVA	*Psidium guajava*
111	FEBA ANTONY	UG	BOT	TDPA	9496711623	SEETHAPAZHAM	*Annona squamosa*
112	DILEEP KUMAR			KOTTA	8589021462	WOOD APPLE	*Limonia acidissima*
113	VINAYAKAN P.M.	PASS OUT	MATHS	CHENGANNUR	7012586890	LAKSHMITHARU	*Simarouba glauca*
114	VINAYAKAN P.M.	PASS OUT	MATHS	CHENGANNUR	7012586890	MAHAGONY	*Swietenia mahagoni*
115	VINAYAKAN P.M.	PASS OUT	MATHS	CHENGANNUR	7012586890	WOOD APPLE	*Limonia acidissima*
116	SRUTHI	UG	ENG	CHUNKATHARA	9544490524	LAKSHMITHARU	*Simarouba glauca*
117	SRUTHI	UG	ENG	CHUNKATHARA	9544490524	WOOD APPLE	*Limonia acidissima*
118	INDRAJA	UG	BOT	THRIKKUNNAPUZHA		WOOD APPLE	*Limonia acidissima*
119	INDRAJA	UG	BOT	THRIKKUNNAPUZHA		LAKSHMITHARU	*Simarouba glauca*
120	INDRAJA	UG	BOT	THRIKKUNNAPUZHA		WOOD APPLE	*Limonia acidissima*
121	INDRAJA	UG	BOT	THRIKKUNNAPUZHA		WOOD APPLE	*Limonia acidissima*
122	INDRAJA	UG	BOT	THRIKKUNNAPUZHA		EETY	*Dalbergia latifolia*
123	JOMOL	PG	ZOO	CLT	8281270074	WOOD APPLE	*Limonia acidissima*
124	JOMOL	PG	ZOO	CLT	8281270074	SEETHAPAZHAM	*Annona squamosa*

125	VINEETHAMOL G.S	UG	BOT	PERINGARA	7510664009	AGASTHYACHEERA	*Sesbania grandiflora*
126	VINEETHAMOL G.S	UG	BOT	PERINGARA	7510664009	WOOD APPLE	*Limonia acidissima*
127	VINEETHA A.K.	UG	BOT	PERUMPATTY	9497263754	WOOD APPLE	*Limonia acidissima*
128	SUMI V.S.	UG	BOT	KAINAGIRI	8086488863	EETY	*Dalbergia latifolia*
129	SUMI V.S.	UG	BOT	KAINAGIRI	8086488863	WOOD APPLE	*Limonia acidissima*
130	SUMI V.S.	UG	BOT	KAINAGIRI	8086488863	MATHALAM	*Punica granatum*
131	SREEKUTTY P.S.	UG	BOT	NEDUMPRAM	8111909687	LAKSHMITHARU	*Simarouba glauca*
132	SUJINI SURENDRAN	UG	BOT	THURITHIKKADU	9605246547	WOOD APPLE	*Limonia acidissima*
133	APARNA ANANDAN	UG	BOT	CNGY	9645255663	EETY	*Dalbergia latifolia*
134	APARNA ANANDAN	UG	BOT	CNGY	9645255663	LAKSHMITHARU	*Simarouba glauca*
135	APARNA ANANDAN	UG	BOT	CNGY	9645255663	WOOD APPLE	*Limonia acidissima*
136	ATHIRA M.B.	UG	BOT	THALAVADY	7994504645	LAKSHMITHARU	*Simarouba glauca*
137	ATHIRA M.B.	UG	BOT	THALAVADY	7994504645	KARIVEPPU	*Murraya koenigii*
138	ATHIRA M.B.	UG	BOT	THALAVADY	7994504645	WOOD APPLE	*Limonia acidissima*
139	ANU.K.JOHNSON	UG	BOT		7560943055	MANTHARAM	*Bauhinia acuminata*
140	ANU.K.JOHNSON	UG	BOT		7560943055	WOOD APPLE	*Limonia acidissima*
141	MUHAMMED RAMEES	UG	BOT	CNGY	7356763935	SEETHAPAZHAM	*Annona squamosa*
142	MUHAMMED RAMEES	UG	BOT	CNGY	7356763935	SEETHAPAZHAM	*Annona squamosa*
143	KARTHIKA SADANANDAN	UG	BOT	SANTHIPURAM	7510251530	KARIVEPPU	*Murraya koenigii*
144	KAMARUDHEEN P.S.	UG	BOT	MUTHOOR	9847657224	GUAVA	*Psidium guajava*
145	KAMARUDHEEN P.S.	UG	BOT	MUTHOOR	9847657224	WOOD APPLE	*Limonia acidissima*
146	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	GOOSEBERRY	*Phyllanthus emblica*
147	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	SEETHAPAZHAM	*Annona squamosa*
148	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	AGASTHYACHEERA	*Sesbania grandiflora*
149	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	WOOD APPLE	*Limonia acidissima*
150	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	LAKSHMITHARU	*Simarouba glauca*
151	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	GUAVA	*Psidium guajava*
152	BIFI K.P.	UG	MATHS	KAVALAM	8606010880	SEETHAPAZHAM	*Annona squamosa*
153	BIFI K.P.	UG	MATHS	KAVALAM	8606010880	WOOD APPLE	*Limonia acidissima*
154	BISMI	PG	ZOO	PULIMKUNNU	8606069037	LAKSHMITHARU	*Simarouba glauca*
155	BISMI	PG	ZOO	PULIMKUNNU	8606069037	WOOD APPLE	*Limonia acidissima*
156	BISMI	PG	ZOO	PULIMKUNNU	8606069037	KARIVEPPU	*Murraya koenigii*
157	BISMI	PG	ZOO	PULIMKUNNU	8606069037	SEETHAPAZHAM	*Annona squamosa*
158	BISMI	PG	ZOO	PULIMKUNNU	8606069037	BAMBOO	*Bambusa sps.*
159	BISMI	PG	ZOO	PULIMKUNNU	8606069037	BAMBOO	*Bambusa sps.*
160	ARCHANA. R		PHY	PAIPAD	9496554454	KANIKONNA	*Cassia fistula*

161	UNNIMAYA	UG	BOT		9072559011	EETY	*Dalbergia latifolia*
162	SHILPA SURESH	UG	ZOO	CHUNATHRA	9544367795	WOOD APPLE	*Limonia acidissima*
163	SHILPA SURESH	UG	ZOO	CHUNATHRA	9544367795	LAKSHMITHARU	*Simarouba glauca*
164	SHILPA SURESH	UG	ZOO	CHUNATHRA	9544367795	LAKSHMITHARU	*Simarouba glauca*
165	SHILPA SURESH	UG	ZOO	CHUNATHRA	9544367795	POOVARASHU	*Thespesia populnea*
166	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	GUAVA	*Psidium guajava*
167	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	GUAVA	*Psidium guajava*
168	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	SEETHAPAZHAM	*Annona squamosa*
169	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	WOOD APPLE	*Limonia acidissima*
170	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	WOOD APPLE	*Limonia acidissima*
171	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	WOOD APPLE	*Limonia acidissima*
172	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	LAKSHMITHARU	*Simarouba glauca*
173	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	AGASTHYACHEERA	*Sesbania grandiflora*
174	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	AGASTHYACHEERA	*Sesbania grandiflora*
175	EAZA FRAIROOZA	UG	ENG	KIZHAKKENM UTHOOR	7510580569	MANTHARAM	*Bauhinia acuminata*
176	MANJU	UG	ECO	NIRANAM	9847996856	WOOD APPLE	*Limonia acidissima*
177	ASHWATHY SAJI	UG	MATHS	ITHITHANAM	9747395671	SEETHAPAZHAM	*Annona squamosa*
178	THUSHARA GIREESH		ENG	CNGY	9847125991	KARIVEPPU	*Murraya koenigii*
179	THUSHARA GIREESH		ENG	CNGY	9847125991	WOOD APPLE	*Limonia acidissima*
180	THUSHARA GIREESH		ENG	CNGY	9847125991	LAKSHMITHARU	*Simarouba glauca*
181	SONIYA MANOHARAN	PG	MICRO BIO	IDUKKI	9895359880	SEETHAPAZHAM	*Annona squamosa*
182	SONIYA MANOHARAN	PG	MICRO BIO	IDUKKI	9895359880	AGASTHYACHEERA	*Sesbania grandiflora*
183	SONIYA MANOHARAN	PG	MICRO BIO	IDUKKI	9895359880	LAKSHMITHARU	*Simarouba glauca*
184	POURNAMI		ZOO	KARUNAGAPALLY	9645301097	LAKSHMITHARU	*Simarouba glauca*
185	POURNAMI		ZOO	KARUNAGAPALLY	9645301097	GUAVA	*Psidium guajava*
186	POURNAMI		ZOO	KARUNAGAPALLY	9645301097	WOOD APPLE	*Limonia acidissima*
187	BIBIN CHAKO	PASS OUT	POLITICS	TVLA	9746988382	GUAVA	*Psidium guajava*
188	BIBIN CHAKO	PASS OUT	POLITICS	TVLA	9746988382	GUAVA	*Psidium guajava*
189	ASHWATHY PRAKASH	UG	ZOO	HARIPADU	7025241961	LAKSHMITHARU	*Simarouba glauca*
190	ASHWATHY PRAKASH	UG	ZOO	HARIPADU	7025241961	LAKSHMITHARU	*Simarouba glauca*
191	ASHWATHY PRAKASH	UG	ZOO	HARIPADU	7025241961	WOOD APPLE	*Limonia acidissima*
192	ASHWATHY PRAKASH	UG	ZOO	HARIPADU	7025241961	AGASTHYACHEERA	*Sesbania grandiflora*
193	SRUTHY	UG	ZOO	AMPALAPUZHA	8281219167	WOOD APPLE	*Limonia acidissima*

194	SRUTHY	UG	ZOO	AMPALAPUZHA	8281219167	NEEM	*Azadirachta indica*
195	SRUTHY	UG	ZOO	AMPALAPUZHA	8281219167	AGASTHYACHEERA	*Sesbania grandiflora*
196	ATHIRA.S.AJAY	PG	MICRO BIO	TVM	8075796940	KUMIZH	*Gmelina arborea*
197	ACHUMOL AJITH	UG	ZOO	KATTODU	9605014664	LAKSHMITHARU	*Simarouba glauca*
198	ACHUMOL AJITH	UG	ZOO	KATTODU	9605014664	LAKSHMITHARU	*Simarouba glauca*
199	MAHIMA.P.MOHAN	UG	ZOO	KATTODU	9744966514	WOOD APPLE	*Limonia acidissima*
200	MAHIMA.P.MOHAN	UG	ZOO	KATTODU	9744966514	LAKSHMITHARU	*Simarouba glauca*
201	NIKHIL KRISHNAN	UG	BOT	PAIPAD	9645738554	EETY	*Dalbergia latifolia*
202	NIKHIL KRISHNAN	UG	BOT	PAIPAD	9645738554	WOOD APPLE	*Limonia acidissima*
203	NIKHIL KRISHNAN	UG	BOT	PAIPAD	9645738554	WOOD APPLE	*Limonia acidissima*
204	NIKHIL KRISHNAN	UG	BOT	PAIPAD	9645738554	EETY	*Dalbergia latifolia*
205	DEVIKA	UG	MATHS	AMPALAPUZHA	9544229470	WOOD APPLE	*Limonia acidissima*
206	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	WOOD APPLE	*Limonia acidissima*
207	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	WOOD APPLE	*Limonia acidissima*
208	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	WOOD APPLE	*Limonia acidissima*
209	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	NEEM	*Azadirachta indica*
210	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	AGASTHYACHEERA	*Sesbania grandiflora*
211	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	MANTHARAM	*Bauhinia acuminata*
212	ANJANA.S		B.COM MODEL- 1	RAMANKARI	807881603	WOOD APPLE	*Limonia acidissima*
213	SANTHOSH JACOB	TC	PHY	THALAVADY	9447388187	KARIVEPPU	*Murraya koenigii*
214	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
215	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
216	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
217	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
218	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
219	MARTHOMA COLLEGE		HIST	TVLA		MAHAGONY	*Swietenia mahagoni*
220	TEENA. T ELIZABETH	TC	ENG	MLPY	9497338188	EETY	*Dalbergia latifolia*
221	TEENA. T ELIZABETH	TC	ENG	MLPY	9497338188	GUAVA	*Psidium guajava*
222	KRISHNA SUJA	UG	VOC BOT	TVM	9447723100	NEEM	*Azadirachta indica*
223	KRISHNENDU	UG	VOC BOT			GOOSE BERRY	*Phyllanthus emblica*
224	JYOTHIKA	UG	VOC BOT	THIRUMOOLAPURAM	7561071841	WOOD APPLE	*Limonia acidissima*
225	SAJOMOL	UG	VOC BOT	MLPY	9526240102	WOOD APPLE	*Limonia acidissima*
226	SHITHU	UG	VOC BOT	TVLA	9947740170	GUAVA	*Psidium guajava*
227	SIMI MARY KOSHY	UG	VOC BOT	KAYAMKULAM	9446549516	SEETHAPAZHAM	*Annona squamosa*

228	AISHWARYA	UG	VOC BOT	PARUMALLA	9744775672	GUAVA	*Psidium guajava*
229	ARCHANA	UG	BOT	TVLA	8606599750	NEEM	*Azadirachta indica*
230	RESHMA A. R.	UG	BOT	NEDUMPURAM	7558938487	WOOD APPLE	*Limonia acidissima*
231	AALIYA. MOL V. A.	UG	BOT	TVLA	9562683799	WOOD APPLE	*Limonia acidissima*
232	ARYA GOPAKUMAR	UG	BOT	CNGY	7994024608	WOOD APPLE	*Limonia acidissima*
233	HARITHA K. N.	UG	BOT	ENATHU	9447066984	NEEM	*Azadirachta indica*
234	HARITHA K. N.	UG	BOT	ENATHU	9447066984	LAKSHMITHARU	*Simarouba glcuca*
235	HARITHA K. N.	UG	BOT	ENATHU	9447066984	GOOSE BERRY	*Phyllanthus emblica*
236	SAJI JOHN	NT	CHEM	VENNIKULAM	9961223957	NEEM	*Azadirachta indica*
237	SAJI JOHN	NT	CHEM	VENNIKULAM	9961223957	AGASTHYACHEERA	*Sesbania grandiflora*
238	JINCY BABU	UG	BOT	KOTTUR	9656306340	WOOD APPLE	*Limonia acidissima*
239	JINCY BABU	UG	BOT	KOTTUR	9656306340	MAHAGONY	*Swietenia mahagoni*
240	RAECHEL	NT	NEW HOSTEL	TVLA	9447955476	GUAVA	*Psidium guajava*
241	RAECHEL	NT	NEW HOSTEL	TVLA	9447955476	LAKSHMITHARU	*Simarouba glcuca*
242	RESHMI M. K NAIR	PASS OUT	CHEM	ELAMANNOOR	7559943782	GOOSE BERRY	*Phyllanthus emblica*
243	RESHMI M. K NAIR	PASS OUT	CHEM	ELAMANNOOR	7559943782	LAKSHMITHARU	*Simarouba glcuca*
244	RESHMI M. K NAIR	PASS OUT	CHEM	ELAMANNOOR	7559943782	GUAVA	*Psidium guajava*
245	ARUNIMA	UG	ECO	9544875709		GUAVA	*Psidium guajava*
246	RAKESH P. M	UG	ECO	ERAVIPEROOR	8111931475	WOOD APPLE	*Limonia acidissima*
247	J. MALAVIKA	UG	BOT	PALA	7025119915	AGASTHYACHEERA	*Sesbania grandiflora*
248	J. MALAVIKA	UG	BOT	PALA	7025119915	MATHALAM	*Punica granatum*
249	SABU	NT	BOT	TVLA	9496266122	AGASTHYACHEERA	*Sesbania grandiflora*
250	SABU	NT	BOT	TVLA	9496266122	EETY	*Dalbergia latifolia*
251	AKHILA	UG	BOT	HARIPPAD	8281317621	EETY	*Dalbergia latifolia*
252	AKHILA	UG	BOT	HARIPPAD	8281317621	WOOD APPLE	*Limonia acidissima*
253	HARISH	NT	COMP CENTRE	TVLA	9447279012	GOOSE BERRY	*Phyllanthus emblica*
254	HARISH	NT	COMP CENTRE	TVLA	9447279012	NEEM	*Azadirachta indica*
255	HARISH	NT	COMP CENTRE	TVLA	9447279012	NEEM	*Azadirachta indica*
256	SHASNA. C	UG	BOT	TVLA	8157013734	KUMIZH	*Gmelina arborea*
257	SHASNA. C	UG	BOT	TVLA	8157013734	LAKSHMITHARU	*Simarouba glcuca*
258	SHASNA. C	UG	BOT	TVLA	8157013734	MAHAGONY	*Swietenia mahagoni*
259	SHASNA. C	UG	BOT	TVLA	8157013734	WOOD APPLE	*Limonia acidissima*
260	SHASNA. C	UG	BOT	TVLA	8157013734	AGASTHYACHEERA	*Sesbania grandiflora*
261	SIMI SABU	UG	BOT	TVLA	9061681513	GUAVA	*Psidium guajava*
262	SIMI SABU	UG	BOT	TVLA	9061681513	GOOSE BERRY	*Phyllanthus emblica*
263	SIMI SABU	UG	BOT	TVLA	9061681513	POOVARASHU	*Thespesia populnea*
264	SIMI SABU	UG	BOT	TVLA	9061681513	MANTHARAM	*Bauhinia acuminata*
265	SIMI SABU	UG	BOT	TVLA	9061681513	KARIVEPPU	*Murraya koenigii*

266	SONA	UG	ENG	KODUPUNNA	9562299748	WOODAPPLE	*Limonia acidissima*
267	ASWATHY RAJAGOPAL	UG	ENG	KARUNAGAPALLY	9446325098	WOODAPPLE	*Limonia acidissima*
268	ASWATHY RAJAGOPAL	UG	ENG	KARUNAGAPALLY	9446325098	MANTHARAM	*Bauhinia accuminata*
269	ASLAM S	UG	BOT	KARUNAGAPALLY	8129287886	KARIVEPPU	*Murraya koenigii*
270	SEETHA LEKSHMI	UG	ENG	BUDHANOOR	7559975196	WOODAPPLE	*Limonia acidissima*
271	AKHILA	UG	CHEM	EZHUMATTOR	9074646313	NEEM	*Azadirachta indica*
272	LEENA P CHERIAN	TC	ENG	KUTTAPUZHA	9496325859	AGASTHYACHEERA	*Sesbania grandiflora*
273	JEETHU GEORGE	UG	CHEM	NIRANAM	9747471891	WOODAPPLE	*Limonia acidissima*
274	JEETHU GEORGE	UG	CHEM	NIRANAM	9747471891	SEETHAPAZHAM	*Annona squamosa*
275	JEETHU GEORGE	UG	CHEM	NIRANAM	9747471891	AGASTHYACHEERA	*Sesbania grandiflora*
276	REEBA SUSAN THOMAS	UG	CHEM	ERAVIPEROOR	9645454147	WOODAPPLE	*Limonia acidissima*
277	REEBA SUSAN THOMAS	UG	CHEM	ERAVIPEROOR	9645454147	SEETHAPAZHAM	*Annona squamosa*
278	REEBA SUSAN THOMAS	UG	CHEM	ERAVIPEROOR	9645454147	MATHALAM	*Punica granatum*
279	REEBA SUSAN THOMAS	UG	CHEM	ERAVIPEROOR	9645454147	GOOSE BERRY	*Phyllanthus emblica*
280	REEBA SUSAN THOMAS	UG	CHEM	ERAVIPEROOR	9645454147	LAKSHMITHARU	*Simarouba glauca*
281	SHERIN ELSA VARGEESE	UG	PHY	PUTHOOPALLY	8281621563	WOODAPPLE	*Limonia acidissima*
282	SHERIN ELSA VARGEESE	UG	PHY	PUTHOOPALLY	8281621563	GOOSE BERRY	*Phyllanthus emblica*
283	IVY	UG	CHEM	NELLAD	9744849662	LAKSHMITHARU	*Simarouba glauca*
284	IVY	UG	CHEM	NELLAD	9744849662	NEEM	*Azadirachta indica*
285	IVY	UG	CHEM	NELLAD	9744849662	WOODAPPLE	*Limonia acidissima*
286	IVY	UG	CHEM	NELLAD	9744849662	SEETHAPAZHAM	*Annona squamosa*
287	RENY MARY ROY	UG	CHEM	PERINGARA	8086997143	LAKSHMITHARU	*Simarouba glauca*
288	RENY MARY ROY	UG	CHEM	PERINGARA	8086997143	WOODAPPLE	*Limonia acidissima*
289	LINCY K.L.	PASS OUT	PHY	KOODAL	9846144024	WOODAPPLE	*Limonia acidissima*
290	LINCY K.L.	PASS OUT	PHY	KOODAL	9846144024	GOOSEBERRY	*Phyllanthus emblica*
291	RESHMI	PG	BOT	CNGY	9497261219	GUAVA	*Psidium guajava*
292	RESHMI	PG	BOT	CNGY	9497261219	WOODAPPLE	*Limonia acidissima*
293	SHYAMILA P.S.	PG	BOT	CHALAKKUDY	8119354577	BAMBOO	*Bambusa sps.*
294	ADARSH	UG	POLI	CNGY	7356763935	WOODAPPLE	*Limonia acidissima*
295	MATHEW CHAKO	UG	POLI	KOODAL	8606165379	NEEM	*Azadirachta indica*
296	MAHIMA A .VARGHEESE	TC	BOT	KADAPRA	0469 - 2610059	EETY	*Dalbergia latifolia*
297	ANUSHA. C	UG	BOT	MANNAR	9539065404	EETY	*Dalbergia latifolia*
298	NITHIN RAJ	UG	BOT	KTA	8606772504	EETY	*Dalbergia latifolia*

299	ARYA RAMESH	UG	BOT	KTA	9207733808	AGASTHYACHEERA	*Sesbania grandiflora*
300	SRUTHY PAVANAN	UG	ENG	PARUMALA	9747285890	AGASTHYACHEERA	*Sesbania grandiflora*
301	JINCY BABU	UG	BOT	KOTTUR	9656306340	KARIVEPPU	*Murraya koenigii*
302	JINCY BABU	UG	BOT	KOTTUR	9656306340	SEETHAPAZHAM	*Annona squamosa*
303	DEVIKA GANGADHARAN	UG	BOT	KALLOOPARA	8606477381	EETY	*Dalbergia latifolia*
304	KAMARUDHEEN P.S.	UG	BOT	MUTHOOR	9847657224	WOODAPPLE	*Limonia acidissima*
305	KARTHIKA RAJENDRAN	PG	BOT	IDKY	9656242093	MATHALAM	*Punica granatum*
306	SONIYA JONHSON	PG	BOT	CHERUTHONI	9061071872	MATHALAM	*Punica granatum*
307	GEETHUMOL C.G.	UG	BOT	THALAVADY	9567811053	WOODAPPLE	*Limonia acidissima*
308	ATHIRA .M.B.	UG	BOT	THALAVADY	7994804645	CITRUS	*Citrus limon*
309	DR.MANJU PHILIP	TC	BOT	MUNDAKAYAM	9562518505	KUMIZH	*Gmelina arborea*
310	DR.MANJU PHILIP	TC	BOT	MUNDAKAYAM	9562518505	AGASTHYACHEERA	*Sesbania grandiflora*
311	DR.MANJU PHILIP	TC	BOT	MUNDAKAYAM	9562518505	POOVARASHU	*Thespesia populnea*
312	DR.MANJU PHILIP	TC	BOT	MUNDAKAYAM	9562518505	EETY	*Dalbergia latifolia*
313	DR.MANJU PHILIP	TC	BOT	MUNDAKAYAM	9562518505	WOODAPPLE	*Limonia acidissima*
314	RAGENDU	PG	BOT	THIRUVANVANDOOR	7510729581	WOODAPPLE	*Limonia acidissima*
315	RAGENDU	PG	BOT	THIRUVANVANDOOR	7510729582	SEETHAPAZHAM	*Annona squamosa*
316	REV.FR BENOY DANIEL			MANAKALA	9916540515	SEETHAPAZHAM	*Annona squamosa*

ECO FRIENDLY INITIATIVES

ECO FRIENDLY PRACTICES

Eco friendly practices of the college	▪ Many of the faculty members and non-teaching staff use public transportation ▪ Almost all students use public transportation facilities ▪ Usage of plastic is minimized

	▪ Trees have been planted in various places in the campus ▪ Most of the plants and trees in the camps are scientifically labelled ▪ Organic farming practices were carried out in the college premises. ▪ An artificial forest named as “Santhi Vanam” made at the frontage of college ground and created an “Nakshathra Maram” at the frontage to create awareness among students about biodiversity conservation ▪ A “Butterfly Garden” is conserved to promote the growth of butterfly species thereby improving the crops at a distance of 100 m area from the campus. ▪ Students are made aware of the need for energyconservation. ▪ Students are instructed to keep the campus and classrooms clean. ▪ Students participate in cleaning activities regularly. ▪ Students participate in maintenance of the campus by planting trees. ▪ A “Model Medicinal Garden” is maintained in the campus. ▪ An “Orchidarium” is maintained in the campus. ▪ A “Shade house” is maintained in the campus for the conservation of RET plants. ▪ The college has been declared as a ‘No Plastic’ zone ▪ Conducted poster competition, Invited lectures etc. ▪ The campus protects age old trees in addition to several new trees and plants planted. ▪ The campus is lush green with gardens, lawns, flowers and plants wherever there is open space. ▪ Rain water is harvested and collected in the well in front

	of the college. ▪ There is a big pond at the far end of the college ground to harvest water. ▪ Bio-degradable waste is collected and made into compost. ▪ Non-degradable and electronic waste and toxic materials are regularly disposed off.
Clubs and organizations in the campus which have contributed to environmental awareness	▪ NSS ▪ NCC ▪ Nature Club ▪ Forestry Club ▪ Tourism club ▪ Bird Watchers Club ▪ Science Forum ▪ Departmental associations
Inclusion of environment related topics in syllabus	Topics related to environment have been included in the syllabus of • B Sc Botany (Model – I) • B Sc Botany (Model – II) • B Sc Zoology • B Sc Chemistry • M.Sc. Botany, Zoology, Biotechnology, Microbiology, Chemistry etc The department of Botany offers an open course in Agribased microenteprises and an add on course "Landscaping and Horticultural Practices)
Programmes conducted for environmental awareness	▪ NSS camps ▪ Observation of Environmental day ▪ Wetland Day celebrations ▪ Solid Waste Management Seminar

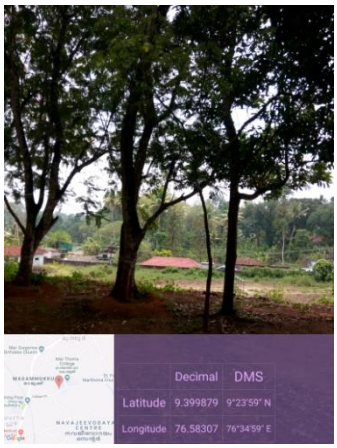
	▪ Conservation of Western Ghats- awareness Campaign. ▪ Seminar on Cryptogams of Western Ghats ▪ Talk on Wildlife Conservation ▪ Celebration of Ozone day ▪ Hiroshima Day Observation ▪ Exhibition of Medicinal Plants ▪ Training programme for making Paper bags, Seed Pen, Paper file etc. ▪ World Food Day Celebrations and Food Fest ▪ Earth Day, Water Day, Forest Day, Wildlife Conservation week etc are celebrating in the campus
Measures taken for ecofriendly resource usage and pollution control	▪ Sewage is not allowed to contaminate water resources ▪ Re wiring of laboratories has been done to save electricity ▪ In order to reduce the energy consumption, classes were conducted in the open areas and under shades of Trees. Brain Trust regularly conducting their meetings under the shade of trees. ▪ The college ensures judicious use of electricity. ▪ Consumables are taken back for recycling by suppliers thereby reducing the amount of e-waste produced. ▪ Steel glass, biodegradable plates etc are using in the meetings, seminars etc. to reduce environmental pollution and inculcate an environment responsibility in the minds of faculty and students.

Botanical Garden

Butterfly Garden

RET Plant Conservatory

Orchidarium



Campus Vegetation

e) Carbon Footprint

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

	No. of Students	No. of Teachers	Non teaching staff
Gents	483	31	35
Ladies	1188	42	6
Total	**1671**	**73**	**41**

1.	Total Number of vehicles used by the stakeholders of the college (per day)	118
2.	No. of cycles used	3
3.	No. of two wheelers used	88
4.	No. of cars used	29
5.	No. persons using common (public) transportation	1500
6.	Number of visitors with vehicles per day	25
7.	Number of generators used per day (hours)	5
8.	Number of LPG cylinders used in the canteen –	1
9.	Amount of fuel used per day	5L/2hrs
10.	Amount of taxi/auto charges paid and the amount of fuel used per monthfor the transportation of vegetables and other materials to canteen	Rs.800
11.	Amount of taxi/auto charges paid per month for the transportation of officegoods to the college.	Rs.1000
12.	Average amount of taxi/auto charges paid per month by the stakeholdersof the college.	Rs.270400
13.	Average distance travelled by stake holders	20x2 kms/day
14.	Expenditure for transportation per person per day	Rs.50/-

POLLUTION

15.	Major sources of carbon foot print	▪ Electricity Usage ▪ Canteen and Hostel ▪ Laboratories ▪ Vehicles
16.	Average carbon footprint per year	~ 15 tons (accounting for generation of electric power used)
17.	Does the college has enough green cover for carbon neutrality?	Yes (for carbon emission inside campus) ~ 45 % (accounting for generation of electric power used)
18.	Percentage of staff using public transport	~ 85 percent
19.	Percentage of students using public transport	>95 percent
20.	Whether any hazardous chemicals are emitted from laboratories and other facilities?	No
21.	Whether usage of air conditioning is minimized?	Yes
22.	Number of vehicles owned by the college	Nil
23.	Whether any major polluting industries are situated in the area?	No

ECO FRIENDLY INITIATIVES

ECO FRIENDLY PRACTICES

Eco friendly practices of the college	▪ Most of the faculty members and non-teaching staff use public transportation ▪ Almost all students use public transportation facilities ▪ Usage of plastic is minimized ▪ Trees have been planted in various places in the campus ▪ Organic farming practices were carried out in the college premises. ▪ An artificial forest named as "Santhi Vanam" made at the frontage of college auditorium and created an "Nakshathra Maram" at the frontage to create awareness among students about biodiversity conservation ▪ A "Butterfly Garden" is conserved to promote the growth of butterfly species thereby improving the crops at a distance of 100 m area from the campus. ▪ Students are made aware of the need for energy conservation. ▪ Students are instructed to keep the campus and classrooms clean ▪ Students participate in cleaning activities regularly ▪ Students participate in maintenance of the campus by planting trees ▪ A "Model Medicinal Garden" is maintained in the campus. ▪ An "Orchidarium" is maintained in the campus. ▪ A "Shade house" is maintained in the campus for the conservation of RET plants. ▪ The college has been declared as a 'No Plastic' zone ▪ Conducted poster competition, Invited lectures etc. ▪ The campus protects age old trees in addition to several new

	trees and plants planted. ▪ The campus is lush green with gardens, lawns, flowers and plants wherever there is open space. ▪ Rain water is harvested and collected in the well in front of the college. ▪ There is a big pond at the far end of the college ground to harvest water. ▪ Bio-degradable waste is collected and made into compost. ▪ Non-degradable and electronic waste and toxic materials are regularly disposed of.
Clubs and organizations in the campus which have contributed to environmental awareness	▪ NSS ▪ NCC ▪ Nature Club ▪ Forestry Club ▪ Tourism club ▪ Science Forum ▪ Departmental associations
Inclusion of environment related topics in syllabus	Topics related to environment have been included in the syllabus of • B Sc Botany (Model – I) • B Sc Botany (Model – II) • B Sc Zoology • B Sc Chemistry • M.Sc. Botany, Zoology, Biotechnology, Microbiology, Chemistry etc The department of Botany offers an open course in Agribased microentrises and an add on course “Landscaoing and Horticultural Practices)
Programmes conducted for environmental awareness	▪ NSS camps ▪ Observation of Environmental day ▪ Wetland Day celebrations

	▪ Solid Waste Management Seminar ▪ Conservation of Western Ghats- awareness Campaign. ▪ Talk on Wildlife Conservation ▪ Celebration of Ozone day ▪ Hiroshima Day Observation ▪ Exhibition of Medicinal Plants ▪ Training programme for making Paper bags, Seed Pen, Paper file etc. ▪ World Food Day Celebrations and Food Fest
Measures taken for ecofriendly resource usage and pollution control	▪ Sewage is not allowed to contaminate water resources ▪ Re wiring of laboratories has been done to save electricity ▪ In order to reduce the energy consumption, classes were conducted in the open areas and under shades of Trees ▪ The college ensures judicious use of electricity. ▪ Consumables are taken back for recycling by suppliers thereby reducing the amount of e-waste produced.

e) Carbon Footprint

1. Total Number of vehicles used by the stakeholders of the college (per day) - 118

2. No. of cycles used – 3

3. No. of two wheelers used – 88

4. No. of cars used – 29

5. No. persons using common (public) transportation – 1500

6. Number of visitors with vehicles per day – 25

7. Number of generators used per day (hours) – 5

8. Number of LPG cylinders used in the canteen – 1

9.Amount of fuel used per day – 5L/2hrs

10. Amount of taxi/auto charges paid and the amount of fuel used per monthfor the transportation of vegetables and other materials to canteen – Rs.800

11. Amount of taxi/auto charges paid per month for the transportation of officegoods to the college. Rs.1000

12. Average amount of taxi/auto charges paid per month by the stakeholdersof the college. - Rs.270400

13. Average distance travelled by stake holders – 20x2 kms/day

14. Expenditure for transportation per person per day – Rs.50/-

Follow Up and Action Plans

Green auditing is a continuous process. Sustainable and innovative ideas and initiatives have to be designed and implemented in the institutions. It will make the college ecofriendly campus. Follow up programs of green auditing recommendations should be done meticulously before the next audit.

Next Audit

In order to promote continuous improvement it is recommended to conduct the next green auditing during the year 2024.

CONCLUSION

The environmental audit has studied the practices of the college regarding solid waste management, water and wastewater management, energy usage and pollution and campus maintenance. It has also examined the ecofriendly initiatives of the college. It is observed that

- Solid waste management system is in place and the waste is disposed properly
- E-waste is separately handled and efforts are in place to minimize generation of e-waste
- The college meets its water requirements from sources in the college itself
- Drainage and sewage systems are in place in the college
- The college has a large potential for rain water harvesting
- The college has a large potential for solar energy production
- Topics related to environment are included in the syllabus of various programmes
- The college has initiated environment friendly practices such as organic farming, butterfly garden, *Santhivanam*, Model Medicinal Plant Garden, RET Plant Conservatory, tree plantings and Plant distribution, etc.

Dr Jacob Thomas
General Coordinator

Dr. JACOB THOMAS
Asst. Professor & Research Guide
Research Dept. of Botany
College, Thiruvalla - 689103

Dr Susan Thomas
Coordinator, IQAC

Dr Varughese Mathew
Principal

Principal
Mar Thoma College, Tiruvalla

MAR THOMA COLLEGE * TIRUVALLA *