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ENVIRONMENT AUDIT REPORT

MAHATMA GANDHI COLLEGE

TRIVANDRUM

DECEMBER 2023





Environment Audit Report

MAHATMA GANDHI COLLEGE, TRIVANDRUM

Report No: EA 1093 2023- DECEMBER

Environment Audit Team

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About OTTOTRACTIONS

OTTOTRACTIONS established in 2005, is an organization with proven track record and knowledge in the field of energy, engineering, and environmental services. They are the first Accredited Energy Auditor from Kerala for conducting Mandatory Energy Audits in Designated Consumers as per Energy Conservation Act-2001. Government of Kerala recognized and appreciated **OTTOTRACTIONS** by presenting its prestigious "**The Kerala State Energy Conservation Award 2009**" for the best performance as an Energy Auditor. Ottotractions is an ISO 9001-2015, ISO 17020-2012 and ISO 14001-2015 Certified organization, which ensures the quality of its services.

Acknowledgement

We were privileged to work together with the administration and staff of Mahatma Gandhi College, Trivandrum for their timely help extended to complete the audit and bringing out this report.

With gratitude, we acknowledge the diligent effort and commitments of all those who have helped to bring out this report.

We also take this opportunity to thank the bona-fide efforts of team OTTOTRACTIONS for unstinted support in carrying out this audit.

We thank our consultants, engineers and backup staff for their dedication to bring this report.

Thank you.

B V Suresh Babu Accredited Energy Auditor AEA 33, Bureau of Energy Efficiency



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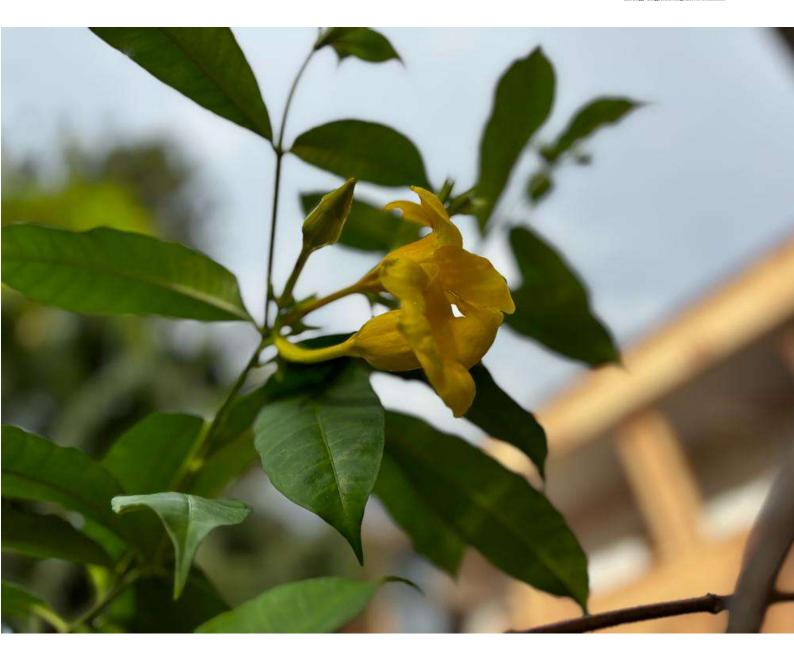
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INTRODUCTION

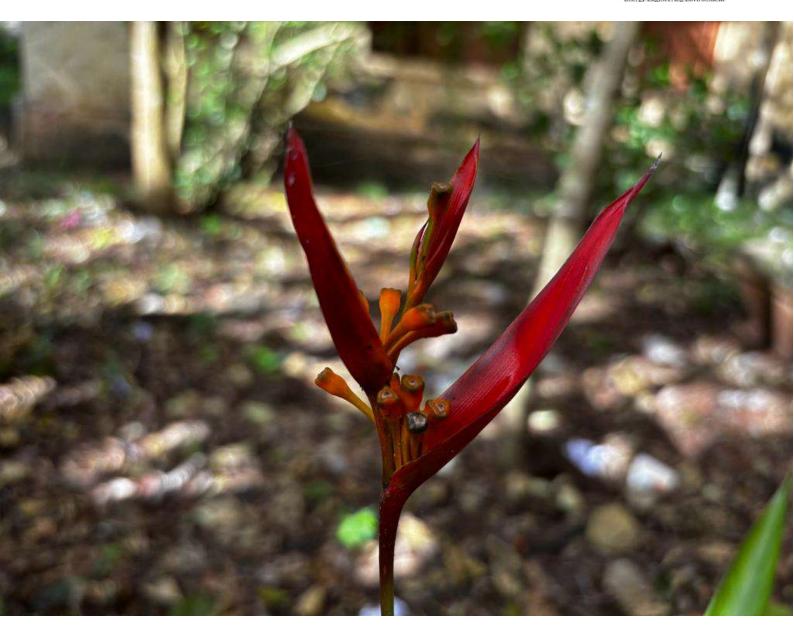
Mahatma Gandhi College, Trivandrum has entrusted Ottotractions to carry out an environment audit of their campus building.

Each section contains recommendations for improvements relating to environmental issues, which are consolidated in the action plan in section 4.



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BACKGROUND

Founded by the Nair Service Society in 1948, Mahatma Gandhi College, Thiruvananthapuram, is a premier educational institution where quality education is given new dimensions. It is one of the largest and oldest institutions of higher education in the capital city of the state of Kerala run by the largest educational agency of Kerala, the Nair Service Society.

Mahatma Gandhi College functions with the objective of providing value added quality education to all, with special emphasis on the economically poor sections of the society, upholding the motto "Sa Vidya Ya Vimukthaye". It has 13 UG, 10 PG and



8 research programmes in the faculties of basic science, humanities and social sciences with more than 2500 students pursuing their studies in various disciplines. Mahatma Gandhi College has been accredited by NAAC at 'A' level in the first phase which was retained in the second phase of accreditation as well. University Grants commission bestowed the college with the status of CPE (College with Potential for Excellence) and awarded an assistance of Rupees One crore for the development of infrastructure and the conduct of various programs in the first phase. The college underwent its third phase of accreditation in 2018 and was awarded B+ grade with a CGPA of 2.73. The institution was selected for the award of three FIST (Fund for Improvement of Science and Technology Infrastructure in Universities and Higher Educational Institutions) programmes of the DST (Department of Science and Technology, Government of India).

Occupancy Details								
Particulars 2018-19 2019-20 2020-21 2021-22 2022-23								
Total Students	2275	2300	2301	2262	2214			
Staffs	120	120	120	120	120			
Total Occupancy of the college	2395	2420	2421	2382	2334			

Total student strength of the campus is 2334. For calculating per capita carbon emission estimation, the student strength is taken into account.





ENVIRONMENTAL ISSUES

This section is broken down into the following different areas: waste, water, energy, resource and materials use and procurement. A final 'other' section is also included for any additional issues.



1.1. Waste

The way communities generate and manage their waste plays an absolutely key role in their ability to use resources efficiently. All buildings contain bins for both general waste and mixed recyclables (plastic bottles, card, cans and paper). On average each floor in the buildings areas has its own general waste bin and one recycling bin. When the bins are emptied by the cleaning staff. Bins are marked and kept in different colors for identification, however in some locations throughout the building it was unclear which bins were for which waste streams.

There are four basic in which ways campus can do **plastic** recycling **collection** services for **plastic** bottles and containers curbside, drop-off, buy-back or deposit/refund programs. The first, and most widely accessible, collection method is curbside collection of recyclables. The campus is installed bins to collect plastic bottles and single use plastics. The college has given a proper awareness on plastic waste problems and they are discouraging the students or teachers to carry plastics to the campus.



The major concern of waste management will be focused on the solid waste produced by the campus. Solid wastes produced in the campus are mainly of three types, food waste, paper waste, and plastic waste. Food wastes produced in the campus are mainly by two means. The vegetable wastes produced in the kitchen during the food preparation. The food waste produced by the students and staffs of the campus after the consumption of meals. The degradable waste can treated in the biogas plant.



Degradable Waste Generation							
Mahatma Gandhi College, Trivandrum							
Particulers	2018-	2019-	2020-	2021-	2022-		
Particulers	19	20	21	22	23		
Total Occupancy 2395 2420 2421 2382 2334							
Waste generated in kg /day 47.9 48.4 48.42 47.64 46.6							
Waste generated in kg /Yr	10538	10648	10652	10481	10270		



Burning plastics shall be strictly restricted inside the campus. **Burning plastic** and other wastes releases dangerous substances such as heavy metals, Persistent Organic Pollutants, and other toxics into the air and ash waste residues. Such pollutants contribute to the development of asthma, cancer, endocrine disruption, and the global burden of disease.

Solid non degradable Waste Generation								
Mahatma Gandhi College, Trivandrum								
Particulers	2018-	2019-	2020-	2021-	2022-			
Farticulers	19	20	21	22	23			
Total Occupancy	2395	2420	2421	2382	2334			
Waste paper generated in kg /day	0.479	0.484	0.4842	0.4764	0.4668			
Waste plastic generated in kg /day	0.7185	0.726	0.7263	0.7146	0.7002			
Waste paper generated in kg /Yr	106.48	106.52	104.81	102.70				
Waste plastic generated in kg /Yr	158.07	159.72	159.79	157.21	154.04			



	WASTE MINIMIZATION	N AND RECYCLING
1	Does your institute generate any waste?	Yes, Solid waste, Canteen Waste
'	If so, what are they?	paper, plastic, Horticulture Waste etc.
2	What is the approximate amount of waste generated per day? (in Kilograms/) (approx.)	46.68
3	How is the waste generated in the institute managed? By	Reuse of one side printed Paper for internal communication. Kitchen waste can used to generate manures and biogas. Two types of Waste bins are provided at campus for biodegradable and non-biodegradable waste.
	1 Composting	In-house
	2 Recycling	In-house
	3 Reusing	In-house
	4 Others (specify)	
4	Do you use recycled paper in institute?	Yes
5	Do you use reused paper in institute?	Yes
6	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	Awareness programs through Nature Club, Exhibition and NSS
7	Can you achieve zero garbage in your institute? If yes, how?	Yes

	Green Cover Audit								
1 Is there a garden in your institute?									
2	Do students spend time in the garden?	Yes							
	Total number of Dianta in	Plant type	Approx. number						
3	Total number of Plants in Campus	Trees	318						
	Campus	Ornamental	Not estimated						



4	Number of Tree Plantation Drives organized by School per annum. (If Any)	Yes, through Nature club plantation drives are organized.
5	Number of Trees Planted in Last FY.	5
3	Survival Rate	100%

All the activities including energy consumption and waste management have their equivalent carbon emission and they positively contribute to the carbon footprint of the campus. Carbon sequestration is the reverse process, at which the emitted carbon dioxide will get sequestrated according to the type of carbon sequestration employed. Even though there are many natural sequestration processes are involved in a campus, the major type of sequestration among them is the carbon sequestration by trees.

Trees sequestrate carbon dioxide through the biochemical process of photosynthesis and it is stored as carbon in their trunk, branches, leaves and roots. The amount of carbon sequestrated by a tree can be calculated by different methods. In this study, the volumetric approach was taken into account, thus the details including CBH (Circumference at Breast Height), height, average age, and total number of the trees, are required. Detailed table is included in the technical supplement.

Carbon Sequestration							
Particulers 2018-19 2019- 2020-21 2021-22 23							
Total No of Trees	318	318	318	318	318		
Carbon sequestrated by trees in the campus (tCO2e)	6.5	7.2	8.0	8.9	9.84		

Carbon sequestrated by a tree can be found out by using different methods. Since this study is employed the volumetric approach, the calculation consists of five processes.

- Determining the total weight of the tree
- Determining the dry weight of the tree
- Determining the weight of carbon in the tree



- Determining the weight of CO₂ sequestrated in the tree
- Determining the weight of CO₂ sequestrated in the tree per year

Carbon sequestrated by each species of trees in the campus compound is given in the Table. Detailed calculation results are listed out in the tables provided in the technical supplements of 'Carbon sequestration'.



3.1.1 ENERGY

a. Electricity

The total emission of the carbon dioxide per student is 16.49 kg per year. Emission reduction plans were prepared to bring the existing per capita carbon footprint to zero or below so as to bring the campus a carbon neutral or carbon negative campus. All energy efficiency projects shall be implemented, So, the effective specific carbon emission per student is -1.05kg of CO₂ per year only. This can be achieved in many ways but, every alternate plan must be in such a way that, it must fulfill the actual purpose of each activity that is considered.

Here, three major methods are taken in to account as the plans for reducing the carbon emission of the campus.

- Resource optimization
- Energy efficiency
- Renewable energy



Electricity Consumption

	Electricity Connection Details					
	Mahatma Gandhi College, Trivandrum					
1	Name of the Consumer	Mahatma Gandhi College, Trivandrum				
2	Tariff	LT-6A/Ndom				
3	Consumer Numbers	1145162001339, 1145165001338 1145163001351, 1145165001349				
4	Connected Load Total (kW)	190				
5	Annual Electricity Consumption (kWh)	51135				

Annual Electricity Consumption (kWh)								
Consumer No	2018-19	2019-20	2020-21	2021-22	2022-23	Connected Load (kW)		
1145162001339	65497	39588	20660	28840	37729	178		
1145165001338	2303	2204	1361	1830	1685	2		
1145163001351	2055	2055	857	1021	1361	2		
1145165001349	4997	5666	4333	6695	10360	8		
TOTAL	74852	49513	27211	38386	51135	190		

RESOURCE OPTIMISATION

The effective use of resources can limit its unnecessary wastage. Optimal usage of the resources (such as fuels) can save the fuel and can also reduce the carbon emission due to its consumption. This technique can be effectively implemented in the 'transportation' and 'waste' sectors of the campus.

WASTE MINIMISATION

Optimal utilization of paper and plastic stationaries can reduce the frequency of purchase of items. This can reduce the unnecessary wastage of money as well as the excess production of waste. In the case of food, proper food habits and housekeeping practices can optimize its usage.

Currently, College is taking an appreciable effort to reduce the unnecessary production of wastes. But the campus still has opportunities to reduce the generation



of waste and can improve much more. Resource optimization can be effectively implemented in all type of waste generated in the campus and the campus can expect about 50% reduction the total waste produced.

ENERGY EFFICIENCY

Energy efficiency is the practice of reducing the energy requirements while achieving the required energy output. Energy efficiency can be effectively implemented in all the sectors of the campus.

FUELS FOR COOKING

The campus was installed a solar water heater to rise the water temperature to a much higher level, then it has to consume only very less amount of thermal energy for preparing the same amount of food. This can make a positive benefit to the campus by saving money, energy and can reduce the carbon emission of the campus due to thermal energy consumed for cooking.

TRANSPORTATION

Energy efficiency of the transportation sector is mainly depended on the fuel efficiency of the vehicles used. Here mileage of the vehicle (kmpl - Kilometres per Litre) is calculated to assess the fuel efficiency of the vehicle. Percentage of closeness is the ratio of actual mileage of the vehicle to its expected mileage. If the percentage of closeness of mileages of each vehicle is greater than that of its average, then the efficiency status of the vehicle is considered as 'Above average' and else, it is considered as 'Below average'



Renewable Energy

Solar power plant can be installed in the campus which helps offsetting the carbon foot print. The details of these projects are given in the concerned chapters.

After analyzing the historical and measured data the following projects are proposed to make the campus carbon neutral. The projects are from energy efficiency and renewable energy. The further additions in the green cover increase will also give positive impact in the carbon mitigation.

	OTTOTRACTIONS- ENERGY AUDIT								
	Mahatma Gandhi College, Trivandrum								
	Greenhouse Gas Mitigation throu	ıgh Major	Energy I	Efficienc		cts			
SI No	Projects proposed	Energy saved(Year ly)		Sustainabili ty (Years)	First year ton of CO2 mitigated	Expected Tons of CO2 mitigated through out life			
		(kWh)	MWh	Years	First CO	of CC thro			
1	Energy Saving in Lighting by replacing existing 51 No's T8 (40W) Lamps to 18W LED Tube	1077	1.08	10	0.79	7.86			
2	Energy Saving in Lighting by replacing existing 20 No's T5 (28W) Lamps to 18W LED Tube	317	0.32	10	0.23	2.31			
3	Energy Saving in Lighting by replacing existing 50 No's T12 (55W) Lamps to 18W LED Tube	1327	1.33	10	0.97	9.68			
4	Energy Saving in Lighting by replacing existing 14 No's CFL(15W) Lamps to 9W LED Bulb	60	0.06	10	0.04	0.44			
5	Energy Saving by replacing existing 310 No's in-efficent ceiling fans with Energy Efficient Five star fans	5833	5.83	10	4.26	42.58			
	Total	8614	9	10	6.29	62.88			



	OTTOTRAC	TIONS- ENI	ERGY AUD	IT		
	Mahatma Gar	ndhi Colleg	e, Trivand	rum		
	Greenhouse Gas Mitigation	n through F	Renewable	Energy	Projects	3
SI	Projects	Energy	saved (Yearly)	Sustainab ility (Years)	ear ton of nitigated	ed Tons of nitigated h out life
No		(kWh)	MWh	Years	First year CO2 miti	Expected CO2 m through
1	Installation of 35kWp Solar Power Plant	47906	47.91	25	34.97	874.29

Water Conse	ervation Activities
	Basic use of water in campus:
	Drinking – Ground Water
List four uses of water in your institute	2. Gardening – Rain water
	3. Kitchen and Toilets –Ground water
	4. Others – Lab
How does your institute store water?	Overhead Water Tanks and Sumps installed for storage of water.
Are there any water saving techniques followed in your institute?	Rain Water Harvesting system in place
If there is water wastage, specify why and How can the wastage be prevented / stopped?	No
Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many liters of water have been used.	No logbooks are available
Does your institute harvest rain water?	Yes
Is there any water recycling system?	Yes



General Environmental Awareness Que	estionnaire
Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
Does your institute have any rules to protect the environment? List possible rules you could include.	Yes
Dose Environmental Ambient Air Quality Monitoring conducted by the Institute?	No
Dose Environmental Water and Wastewater Quality monitoring conducted by the Institute?	Yes
Dose stack monitoring of DG sets conducted by the Institute?	No
Is any warning notice, letter issued by state government bodies?	No
Dose any Hazardous waste generated by the Institute? If yes explain its category and disposal method	No
Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
Does your institute have any rules to protect the environment? List possible rules you could include.	Yes
Does housekeeping schedule in your campus?	Yes
Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes
Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Yes
Does Institute participate in National and Local Environmental Protection Movement?	Yes
Does the institute have any Recognition/certification for environment friendliness?	Yes
Does the institute use renewable energy?	Yes
Does the Institution conduct a green/environmental audit of its campus?	Yes
Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	Yes (NAAC)



Best Practices and Initiatives	
Renewable Energy	Yes
Solar Power Plant	Yes
Energy Audit and Green Audit Conducted	Yes
Biogas Plant installed	Yes
Biodiversity Conservation	Yes
Green Cover	Yes
Tree Plantation Drives	Yes
ECO clubs	Yes
Groundwater Recharge	Yes
Rain Water Harvesting System.	Yes
Pollution Reduction Public Transportation	Yes
E Waste Management	No
Connected to authorized recycler	Yes
Solid Waste Management	Yes
Lifting of garbage from the campus on alternate days by the Municipal Corporation.	Yes
Adoption of Village	No
CSR	Yes
Water Conservation	Yes
Energy Conservation	Yes





RECOMMENDATIONS

- 1. Implement a utility monitoring program.
 - Allocate staff to carry out meter readings for electricity, waste and water on regular basis
 - Add monitoring data to spreadsheet so results can be viewed graphically
 - Compare with the utility bills meter readings in order to ensure accuracy;
- 2. Consider adopting and implementing a sustainable procurement policy which takes into account the whole life cycle of a product, and make sure environmental issues are written into tenders when contracting out.
- 3. Consider trialing recycled paper again many recycled brands today, such as



Evolve, are just as good as virgin paper.

- 4. Trial the use of re-manufactured (i.e., refilled) ink and toner cartridges rather than purchasing new ones.
- 5. Consider producing some designated 'environmental' pages on the intranet to make it easier for staff to find environmental information. If possible, a discussion forum could be set up to allow easy internal communications and staff to make suggestions for environmental improvements.
- 6. Environmental training could be formalized and carried out for all staff. It does not have to be too long or onerous, providing it covers key points, particularly in relation to waste so all staff are aware of the legal requirements. At the very least, environmental information should be included in the induction pack.
- 7. It is strongly recommended that environmental information is also given to students and staff during induction. It is particularly important for them to be aware of what waste they can dispose of on site and where they can dispose of it, and what waste streams they must take away with them.
- 8. Consider implementing an environmental management system to incorporate all improvements and monitoring requirements. It does not need to be a complex system certified to any particular standard, merely a way of ensuring that baselines are set and progress is measured. Formation of Environment Policy and communicated to all faculties and other staff.
- 9. Plan for Zero Waste Campus Project
- 10. E-waste monthly inventory be maintained at campus as per E waste rules 2016.
- 11. A Water Meter should be installed at the institute for monitoring of water consumption per capita.
- 12. Increase in Environmental promotional activities for spreading awareness at campus.
- 13. Environment/Green committee formation for regulating eco-friendly initiatives at campus premises and periphery.





CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on a wide range of issues related to Environmental aspects. The audit has identified several observations for making the campus premise more environmentally friendly. The recommendations are also mentioned with observations for Mahatma Gandhi College, Trivandrum team to initiate actions.



				Ca	rbon Fo	oot Print					
SI. No	Particulars	2018- 19	tCO2 e	2019- 20	tCO2 e	2020- 21	tCO2 e	2021- 22	tCO2 e	2022- 23	tCO2 e
1	Electricity (kWh)	75147	61.62	49814	40.85	27518	22.56	38699	31.73	51454	42.19
2	Diesel (L)	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	LPG (kg)	540	0.81	540	0.81	360	0.54	720	1.08	900.00	1.35
4	Biogas (kg)	608.7 6	0.85	621.1 9	0.87	633.86	0.89	646.80	0.91	660.00	0.924
5	Degradable Waste in kg/yr.	10538	6.64	10648	6.71	10652. 4	6.71	10480. 8	6.60	10269. 6	6.47
6	Paper Waste in kg/yr	105.3 8	0.06	106.4 8	0.06	106.52	0.06	104.81	0.06	102.70	0.06
	al Carbon Foot rint tCO2e/yr		69.98		49.29		30.76		40.38		50.99

N	let Carbon Emission after implementing Energy Efficienc Renewable Energy Projects Proposed	cy projects and
1	Total Carbon Foot Print tCO2e/yr	50.99
2	Carbon Sequrested tCO2e/yr	9.84
3	Carbon mitigated by Renewable Energy tCO2e/yr (Installed)	1.97
4	Carbon mitigated by Renewable Energy tCO2e/yr (Proposed)	34.97
5	Carbon mitigated by Energy Efficiency (Proposed) tCO2e/yr	6.29
6	Effective Carbon footprint tCO2e/yr	-2.08
7	Total No of Students	2214
8	Specific Carbon Footprint kg CO2e/Student/Yr	-0.94

However, there is scope for further improvement, particularly in relation to waste minimization and energy monitoring. By implementing a basic environmental management system, current good practice can be formalized and a framework can be set up for monitoring, implementation of action plans and continual improvement.

The audit team observed that the overall site is maintained well from an environmental perspective. There are no major observations but few things are important to initiate urgently are waste management records by monthly inventory of hazardous waste, rainwater harvesting recharge; water balance cycle and periodic inspection of buildings; environment policy and initiation of composting at campus.



References

- The Environment [Protection] Act 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Water [Prevention & Control Of Pollution] Cess Act-1977 (Amended 2003) and Rules- 1978
- The Air [Prevention & Control Of Pollution] Act 1981 (Amended 1987) The Air (Prevention
 - & Control of Pollution) Rules 1982
- The Gas Cylinders Rules 2016 (Replaces the Gas Cylinder Rules 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices



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TECHNICAL SUPPLEMENTS



Technical Supplements

								Ma	aha	tma	Ga	ndh	i Co	olle	ge,	Triv	and	drur	n												
					Li	ight	s					F	ans	;			ľ	T			UF	PS			AC			0	ther	S	
SI. No	Location	LED-T	LED-B	LED-B (5W)	LED-SQ	LED(30W)	Т5	Т8	T12	CFL	CF	BLDC	WF	EF	PF	Printer	Photostat	Projector	PC	1kVA	3kVA	6kVA	10kVA	2Tr	1 TR	1.5 TR	РА	Induction cooker	TV	Fridge	Electric Kettle
1	Principal Room				8						7					1	2		3							2			1		
2	Class 61	1						1	1		4																				
3	Research room-1	2									2																			1	
4	13 Head of Dept	9						1			6 5					1			1 3												
5	2 Lab	1 8								4	1							2													
6	Instrumentation Lab	6						1			2							2	1												
7	Research Lab	1							3		2																			1	
8	Physics Lab	4						2	2				2																		
9	Pg Physics Lab								2				1	1																	
10	Physics dept	3							4	1	3				1	2			2												
11	Physics lab	1	1						4	2	2																				
12	Room	6						2			3							1													
13	Library	3 4									3		2						2												



14	S3 Room	6						1		3															
15	Room	5					3	1		2		4		1		1	4			1	1				1
16	Msc Physis Lab	2					3	2	1	3															
17	Spectroscopy Lab	2					3	1		2		1													
18	Electronics Lab		1					8		2	1							1							
19	Dept of PB	2								2							1								
20	Police	1								1															
21	Corridor	1 2			1																				
22	Dept of Chemistry	2						2	1	4							2					1			
23	HOD Hindi	7				1	1			1		1			1		3								1
24	First MA Hindi	2								1															
25	First MA Ecnomics	1					3			2															
26	Chemisty Lab	2						5		1		1		1	1		3				2			1	
27	Smart Class	1					1			2						1									
28	Lab	1 6						2		2			5												
29	Lab Assistant room						1	1		1															
30	Corridor	2	1																						
31	Store	1					1	1																	
32	Chemisty Research Lab	7	2						2	3															
33	Chemistry Lab-3	2	6							2			3												
34	Lecture Hall						1	1																	
35	Class 103x3	6								9															
36	Class 102x3	1 2								1 2															
37	Class 101x3	9								9															
38	Class 104x3		3			6	3			9															
39	Class 105x3	3				3				3															



40	Class 103x3	6								6														
41	Department of Malayalam x3	1 5				6				2 1				3			9							
42	Class 1	2								2														
43	Department of Sociology	2								2						1								
44	UG English	5						1		5		3												
45	Department of History	2	1					2		3	1			1		1	2							
46	HOD	1								1				1			1							
47	Class 71	2								2														
48	Class 70	2								1														
49	Room 81	1	3							1											1			
50	Room 69	3						1		3	1												1	
51	Accounts Section	1								1 0	1		1	3	2		8	1						
52	Seminar Hall	9									4		2	1	1		1			1	3			
53	Auditorium	8		2					3	9														
54	Class 65							1		1														
55	English PG	1	2			2				5														
56	Maths Department	3								5														
57	Computer Lab						8				6			1			3 2		2		2			
58	Seminar Hall	1					2			2														
59	HOD	3								4							1							
60	Library	2						4		5	1		1				1							
61	Zoology Department	1 0								6														
62	Russian Department	2				2				5														
63	Classx3	6								6														
64	Scholar Room	2								2						1								



65	Library	1									1																				
66	HOD	2									1																				
67	Class	1						1			4																				
68	Classx3	1 2									1 2																				
69	Department of commerce	2						1			6					1			1												
	Total	3 8 6	2	2	8	1	2	5 1	5 0	1 4	3 1 0	1	2	1 2	7	2 9	5	1 0	1 2 7	1	1	2	1	1	9	3	0	1	1	3	2

ANNUAL REPORT OF THE ACTIVITIES OF

NATIONAL SERVICE SCHEME UNITS KL 15 A & B DURING 2022-23

The National Service Scheme unit 15 A & B of Mahatma Gandhi College has been functioning giving prime importance to Personality Development of students through community Service. Most of the activities were carried out in our adopted Village Korakulam located adjacent to the college. As part of the regular activities so many community development programs, webinars, awareness programs, observation of special days, sanitation drives etc were successfully conducted with the support of the principal and active participation of the volunteers and the local residents. In addition to this, Vimukthi initiative programmes and palliative care programmes were also carried out during the academic year 2022-23.

1.Distribution of Books and study materials to the children of Korakulam –our participatory Village on 24/05/2022

Study materials and books collected and donated by the volunteers were distributed to the children in our adopted Village on 24/05/ 2022.







2. World Environment day celebrations 2022

Environment Day 2022 – Environment day celebrations were conducted on 4th June 2022 in association with Kerala Academy of Sciences, Thiruvananthapuram, Department of Botany and Zoology.







3. World Elderly abuse awareness Day 2022 on 15/06/2022

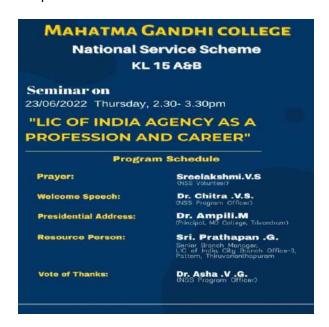
World Elderly abuse awareness day was held on 15/06/2022. A pledge against elderly abuse was also taken after the talk.





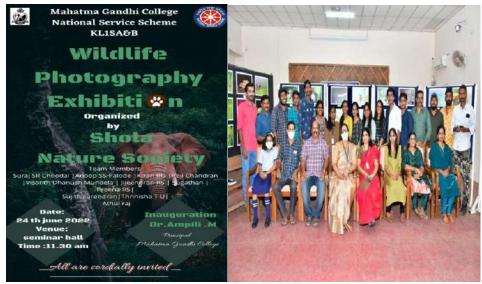
4. Career oriented talk on 23/06/2022

Career Oriented talk was conducted in our college on 23/06/2022 by Life Insurance Corporation of India .



5. Extension Activity - Wild life Photography Exhibition On 24/06/2022

Wild life photography exhibition was organized by Our Unit in association with Shola Nature Society. Students from NSS School Kesavadasapuram visited and interacted with the Nature photographers.











6. International Youth Day celebrations 2022 on 12/08/2022

As part of International Youth Day celebrations, an awareness program was organized by the NSS Unit. The guest speaker was Shri. Brahmanayakam mahadevan.



7.Independence day celebrations and Cleaning drive at Lekshmi Nagar, Kesavadasapuram on 15/08/2022



8. Food festival in association with Mahatma Gandhi College Cooperative Society on 28/08/2022



9. Awareness talk in association with Health Club on 28/11/2022



ACTIVITIES CONDUCTED BY NSS UNITS AS PART OF "VIMUKTHI" DURING 2022-23

1. Inauguration of activities of "Vimukthi" club

Activites of Vimukthi club in our college was inaugurated by Shri.Jayaraj P.K. Asst.Excise Commissioner and Vimukthi District Manager on 18/4/2022. Welcome address was delivered by Dr.Chitra.V.S. NSS Programme Officer. In the inaugural address, Sri.Jayaraj sir gave an informative speech on the need of avoiding the use of narcotics by citing so many examples he came across during his career. Sri. V.G. Sunil Kumar, Excise Range Officer also addressed the audience. This awareness programme was held in association with Anti- Narcotic Cell of our college









2. Poster Exhibition on Illicit use of Drugs

Poster exhibition on the impacts of drug abuse was organized by the volunteers of our unit on 27/06/2022 Excise Range Officer Sri. V.G. Sunil Kumar was our Chief Guest. Our Volunteers exhibit posters and pictures describing the impacts of drug abuse. In association with this, an oath on drug abuse were also carried out by the volunteers. Sri. Sunil Kumar, Council Secretary delivered the oath to the students. NSS Volunteers and First year students attended the programme



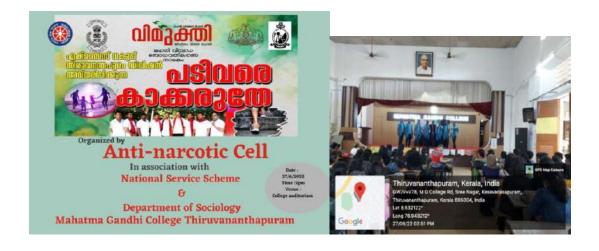






3. Anti-Drug Awareness Drama- "Padi vare kakkaruthe"

Malayalam drama "Padi vare kakkaruthe" organized by the Excise Department, Thiruvananthapuram was hosted in our college on 27/06/2022 in association with Anti-Narcotic Cell. The drama lead by Sri. V.G Sunilkumar clearly narrates the atrocities caused due to the illicit usage of drugs by the youth.





4. Painting at Sreenagar Residence Association on 29/10/2022

As part of awareness program, wall painting at Sreenagar Residence Association was done by Abinav and team on29/10/22. This was done as per the request of Sri.Harikumar, Association Secretary.



5.Awareness programme for first year degree students

An awareness programme was held in our college in association with Anti-Narcotics cell on 6/10/2022 at the auditorium. Sri. Asok Kumar, DYSP (Retd) and Sri. Azad Abdul Kalam, SHO, Peroorkada Police Station were the chief guests. The speakers gave an insight into the various type of drugs used by the youth and explained about their ill effects. The programme was inaugurated by Principal Dr. V. M.

Anandakumar and Felicitations were given by Dr. Sivu .A.R., PTA Secretary. The talks were very informative.



6.Anti narcotic awareness campaign at Sanghumukham

In association with Rotary club of Trivandrum, Empire, the volunteers participated in an awareness program on drug abuse at Sanghumukham on 2/10/2022 to spread the anti drug message in the society. Thiruvananthapuram city police Commissioner Sri, Sparjan Kumar was the chief Guest. Our volunteers recited a song against anti drug abuse , signature campaign and flash mob which were greatly appreciated by the audience and the office bearers of the Rotary club.









മയക്കുമരുന്നിനെതിരെ മെഗാ കാമ്പെയിൻ

തിരുവനന്തപുരം: റോട്ടറി ക്ലബ് ഒ ഫ് ട്രിവാൻഡ്രം മെടോ, ട്രിവാൻ ഡ്രം ട്രാവൻക്കർ, ട്രിവാൻഡ്രം എ മ്പയർ എന്നി ക്ലബ്ലകളുടെ സംയു ക്കത്തുഴിമ്പ്പുത്തിൽറോട്ടറി-പൊ ലീസ്എൻഗേജ്മെറ്റ്റ് ആർ.ഒ.പി. ഇ) എന്ന പദ്ധതിയുടെ ഭാഗമായി ശംഖുംമുഖംബീച്ചിൽനടന്നമയക്കു മരുന്നിനെതിരെയുള്ള മെഗാ കാ വെയിൻസിറ്റിപൊലീസ്ക്ക്കിഷ ണർസ്പർജൻക്കമാർഉദ്ഘാടനം ചെയ്തു. റോട്ടറി ഡിസ്ലിക്ക് 3211 മു ർ ഗവർണർ സുരേഷ് മാത്യു ഉപ്യു ളേജ് പ്രിൻസിപ്പൽ ഡോ.എം.വി. ആനന്ദകമാർ, റോട്ടറി ഡിസ്കിക് 3211 ലഹ്റ്റനങ്ങ് ഗവർണർസി. ഷാ ജി, ജില്ലാ ഡയറക്ടർ മണികണ്യൻ നായർ, റോട്ടറിപ്രസിഡന്റമാരായ ഡോ. വിദ്യാ പണിക്കർ, ചീറ്റർ കാ ർമൽ, ശിവപ്രസാദ് മെട്രോസെക്ര ട്ടറികെ. ശിവാനന്ദൻ ഇടങ്ങിയവർ സംസാരിച്ച. എം. ജി കോളേജ്, എ സ്.എൻകോളേജ്ചെമ്പഴന്തി, ആ ൾ സെതിന്റ്സ് കോളേജ്, സെന്റ് സേവിയേഴ്സ് കോളേജ്, സെന്റ് സേവിയേഴ്സ് കോളേജ്, എന്നിവി ടങ്ങളിലെ വിദ്യാർത്ഥികൾ ലഹരി



ശംഖൃംമൂഖം ബീച്ചിൽ നടന്ന ലഹരി വിശുദ്ധ മെഗാ കാമ്പെയിൻ സിറ്റി പൊലീസ് കമ്മിഷണർ സ്പർജൻ ക്മാർ ഉദ്ഘാടനം ചെയ്യുന്ന

KERALA KAUMUDI EPAPER Clipping Kerala Kaumudi - Trivandru

7.Drug free campaign ar Sree Nagar Residents Association on 24/10/2022

Sree Nagar residence Association is located in paruthipara near to Mahatma Gandhi College. Our volunteers led by Principal, Dr. V.M. Anandakumar, Officials of Excise department, Sri. Hari Kumar, Executive member and Programme Officers, Dr.Chitra.V.S. and Dr.Asha.V.G conducted a no to drugs campaign on 24/10/22. The volunteers visited all the houses and interacted with the members.



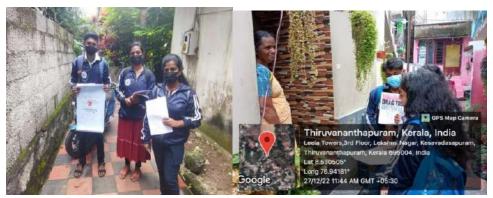








8.Anti – drug awareness campaign in Korakulam- our participatory Village









9. Magic Show- campaign against drug addiction

As part of Anti-drug awareness program, Magic show was conducted in our college on 1/02/2023 by Magician Sri Manu Poojapura. This programme fetched a great response from the students. Through this show, the magician tried to convey the after effects of drug addiction and alcoholism among the students.





10. Poster Exhibition as part of Anti – drug awareness campaign

Poster exhibition titled "Say no to drugs" was organized by the NSS volunteers on 3/04/2023.







ACTIVITIES OF STUDENT PALLIATIVE CLUB (An initiative of the University of Kerala implemented through the National Service Scheme)

The NSS Units of Mahatma Gandhi College, ThiruvananthapuramNo.15A &B conducted socio-economic and health survey in our participatory Village, **Korakulam** on **26.12.2022.** We were accompanied by Social workers Mrs. Aparna A.T, and Mrs. Akhila.A, JPHN, Public Health Centre, Muttada,

2.HOUSE VISITS

Detailed list of the palliative patients was provided by Mr. Harikumar, PTA Executive member and Asha worker, Smt. Sandhya. Based on their report, we decided to focus our activities in participatory Village, Korakulam and also to provide provision kits to 6 families including women above 80yrs of age. This ia a residence colony of 28 families, where most of them were labourers or house maids, belonging to BPL category. On 05 September 2022, five student volunteers, accompanied by Dr. Chitra V.S and Dr. Asha. V.G, programme Officer and Asha Worker Sandhya visited the houses of members, Mrs.Susheela, cancer patient, Smt. Leela , Smt. Santha , Smt. Nagammal and Sri Suresh (NSP Nagar , whose legs underwent amputation due to chronic diabetic condition) and distributed Onam Kits to them.

Our next palliative home visit t were carried out on 18/10/22. We visited the houses of Smt. Nisha, a cancer survivor and Sri.Baburaj, who had undergone brain tumour surgery.





3.SUPPLY OF MEDICINES

Medicines were purchased and given to given Shri.Shyam Kumar, former student of Department of Psychology who had undergone kidney transplantation. Due to covid restrictions and avoiding the risk of getting infection to the patient, only one student is permitted to his house.



3.DISTRIBUTION OF FOOD KITS

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4.DISTRIBUTION OF HEALTH CARE EQUIPMENTS

We also donated 180 suction urine tubes (single use) and 60 numbers of single use urobags Sri. Shyam Kumar, Former student of Department of Psychology as per his requirement. Nebulization masks for Children and adults were also distributed to UPHC, Muttada.



5. DISTRIBUTION OF CLOTHES AND DRESS MATERIALS

Churidar materials and dresses were distributed to Cancer survivor Smt. Nisha in Tilaknagar, parottukonam. We also donated bed sheets and pillow covers to UPHC, Muttada. We also donated clothes and other accessories to RCC patients through Ashraya, NGO.

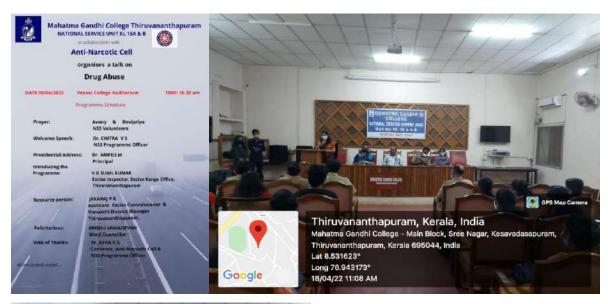




6.Distribution of study materials and toys to students of LMS Centre for Disabled

Study materials were also donated to Children in Centre for rehabilitation Centre for rehabilitation of Differentially abled, LMS Compound.









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4. Drug Abuse Awareness painting at Sreenagar Residnnece Association on 29/10/2022

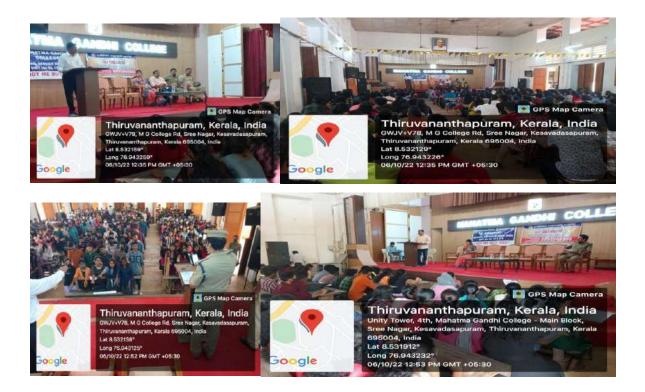
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ശംഖൃംമൂഖം ബീച്ചിൽ നടന്ന ലഹരി വിതദ്ധ മെഗാ കാമ്പെയിൻ സിറ്റി പൊലീസ് കമ്മിഷണർ സ്പർജൻ ക്മാർ ഉദ്ഘാടനം ചെയ്യുന്ന

KERALA KAUMUDI EPAPER Clipping Kerala Kaumudi - Trivandrum

7.Drug free campaign ar SreeNagar Residents Association on 24/10/2022

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8.Anti – drug awareness campaign in Korakulam- our participatory Village

Drug free awareness campaign was conducted by the members of Vimukthi Club on 16 /12/2022.









Poster Exhibition as part of Anti – drug awareness campaign "Say no to drugs" on 3/04/2023.





BIODIVERSITY CLUB - ACTIVITY REPORT 2022-2023

• Biodiversity club organized an invited talk on 02 February 2023 – "World Wetland Day". Bidiversity club convenor Ms. Sharanya K P, welcomed the gathering. Principal Dr. V M Ananda Kumar did the presidential address. Resource person of the programme was S. Balasankar, Dy. RFO, Kerala Forest Department, Trivandrum. He delivered a talk on the topic "Kanivu Thedunna Thanneerthadangal". The talk covered the relevance of wetlands and the necessity to conserve it. Followed by his talk participants interacted with the resource person. The programme was felicitated by Dr. Ratheesh Kumar V K (IQAC coordinator) and Dr. Harikumar (Biodiversity Club Member).











Biodiversity Club members celebrated **International Forest day** on **21**st **March 2023** by making posters for creating awareness among the students regarding the relevance of forest. In order to enhance the greenery of our planet, members planted saplings in their house premises.



As part of commemorate World Water Day On 22^{nd} March 2023, club members created posters and tried to circulate it on social media as an awareness campaign.





Environment Awareness Club Mahatma Gandhi College -Activity Report 2022-23

1. Awareness Talks On Impact Of Clean Campus And Environment 7.12.2022

We all know that it's our collective responsibility to care for the environment, but the truth is that it can be an overwhelming prospect. It's easy to feel like our individual actions won't add up to much, but each of us can make simple choices that keep sustainability in mind and have a real impact on our planet. Keeping this on mind the Environment awareness club started its activity by sensitizing the students about the impact of a clean campus. The club co-ordinator Ms.Sreelekshmi S delivered talk on the impact of clean campus. She said "Maintaining cleanliness is the essential part of healthy living because it is the cleanliness only which helps to improve our personality by keeping clean externally and internally. She briefed about the importance of cleanliness of the campus. Students were advised not to throw paper plates, water bottle, paper cups, tissues, and many unwanted things on campus Lawns, playground, canteen, garden, corridors, class rooms, pathway and other open areas which is very unhygienic to all of us. They were also informed to make the college campus & class rooms a beautiful place for one and it makes individuals healthier when the environment around them is healthy.

To help the environment and to ensure clean college grounds, a clean-up day was hosted in the afternoon after the talk. Clean-up day involved picking up litter from the campus, removing trash on the college campus, and picking up trash on nearby roads and sidewalks. Landscaping projects, such as pulling weeds in flower beds inside of the college, are also part of the clean-up day.





2. World Wet land day Celebration

Environment awareness club in collaboration with WWF -India observed the World Wetland Day on 7th of February 2023 at the college seminar hall. The programme started at 10am by a prayer followed by Acharya Anusmaranam. The club co-ordinator Ms.Sreelekshmi S welcomed the gathering. Principal Dr.S Gopalakrishna Pillai inaugurated the function. Dr.Sivu A.R HoD, Department of Botany and Ms. Sharany K P delivered the felicitation speech.





The awareness talk was lead by Mr.Renjan Mathew Abraham, State Director, WWF-Kerala chapter on the topic "Wetlands are not wastelands- Need for wetland restoration in Kerala". He gave an elaborate picture about the shrinking wetlands across Kerala and how that is making big impacts on the life of humans as well as nature.





After the talk, "Bhoomiyude Jeevareghalkal- Nammude Thanneer Tadangal" a documentary on Wetlands by Mr.Suresh Elamon, Nature and Wildlife Photographer and Documentary maker was screened.



Next talk was lead by Ms.Anushreedha Sivanandan, Project Officer, WWF Kerala Chapter on the topic "Volunteering for our Wetlands".



Mr.A.K Sivakumar, Senior Education Officer WWF, Conducted a Wetland quiz afterwards – "Know, Love, Protect our Wetlands. Abhishek Rajeesh 6th Semester Botany Student bagged the first prize.



The programme was concluded by the release of resource materials on World Wetland Day. The resource materials were handed over the Principal by Mr.Renjan Mathew Abraham.





3. Earth Hour Observed

The observation of Earth hour is an initiative of WWF, , observed every year by millions of people across the planet on the last Saturday in March. The environment awareness club also initiated steps in celebrating the earth day on 25th of March 2023. The tradition was started by the World Wide Fund for Nature (WWF) in 2007 when the international non-governmental organisation encouraged 2.2 million people to turn off their lights for an hour. With Earth Hour, the WWF aims to engage people across the globe to adopt more sustainable lifestyle. Turning off lights for an hour is just an annual reminder that if the world does not mend its ways, it will be heading to a dark age, literally.

Call for observing earth day was circulated through whatsapp by a poster.



