



K.M.G. COLLEGE OF ARTS AND SCIENCE

Permanently Affiliated to Thiruvalluvar University and
Recognized by UGC under section 2(F) & 12(B) of the UGC Act 1956.
Accredited with 'A' Grade by NAAC
Associate member of ICT Academy

Phone: +914171227306

Email: kmgcollege@gmail.com

www.kmgcollege.edu.in

SOCIAL ENTREPRENEURSHIP SWACHHTA & RURAL ENGAGEMENT CELL (SES REC) ANNUAL REPORT (2023-24)

EVENT -1

AWARENESS PROGRAM ON WASTE MANAGEMENT

Social Entrepreneurship Swachhta & Rural Engagement cell (SESREC), Research and development cell & National Service Scheme & Internal Quality Assurance Cell (IQAC) organized the Awareness program on "EXPLOITING BIOTECHNOLOGY FOR POLLUTION ABATEMENT " held on Thursday, 13 October 2023 with the invocation of staff members and students of K.M.G. College of Arts and Science.



Principal Dr. M. Senthilraj delivers a presidential speech regarding the Program. Dr. H. Sridhar, Innovator and Waste management Expert, Founder and chief consultant, ORCCI Consultant, Chennai gave the keynote talk and shared his thoughts on creative trash management concepts. In addition, he develops project and commercial ideas related to waste management. He described the chemical reactions that took place in the container during the breakdown process and how to turn waste particles into fertilisers.



Teachers and students from several departments took part in this programme. A vote of gratitude is offered by Dr. D. Aswini, Assistant professor in the English department, to wrap up the programme. Last but not least, the national anthem closes the show with a wonderful respect for the country.

EVENT -2

SANITATION AND HYGIENE

Hygiene and Sanitation, as these terms are both health-related. Without both of them, we cannot dream of being healthy. More dreadful [diseases](#) such as the current Corona virus-bred pandemic result from lack of hygiene and sanitation, and they eventually put an end to the world. The word *hygiene* mainly focuses on diseases and health, while *sanitation* focuses on the safe disposal of human waste, which could be human urine and faeces. However, both hygiene and sanitation aim at creating a disease-free world that is full of healthy people. To achieve this goal, we have to follow hygiene and sanitation practices daily.

A major aspect of the KMG COLLEGE is health and hygiene. Every student is supposed to be fit and healthy. Personal hygiene is carried out and supervised by the SESREC Committee as well as the Principal; a routine medical checkup is made by the qualified medical physician and is always available on call. However, parents are requested to ensure that their child has undergone all medical check-ups (especially specialist-oriented problems) as may be required, before each academic session.

It is found that the facilities of canteen in KMG College were not being utilized judiciously and carefully. Certain complaints were received pertaining to quality of food items and spurious activities being carried out in some of the KMG canteens. This has become a health hazard and menace for the college atmosphere. Staff and students are responsible for their personal hygiene, which can ultimately dictate how germs spread and cause potential food safety hazards.



Food that should be eaten sparingly as yellow category baked vegetable based snacks, ice creams, milk-based ices and dairy desserts etc



Food preparation and serving area should be located in such a way that there is no food safety risk from objectionable odors, smoke, dust or other such contaminants. It should not be located near toilets.

Pest Management

- a) Animals and insects, potential risks to health, should be excluded from canteen buildings
 - Rat: responsible for plague, Q fever,
 - leptospirosis Pigeon: responsible for salmonellosis, psittacosis
 - Housefly: carrier of pathogenic bacteria
 - Weevils: carrier of pathogenic bacteria
 - Cockroach: carrier of Pathogens
- b) There should be an effective control of pests. Canteen and surrounding areas should be examined for evidence of infestation
 - Ensure doors are closed, when not in use .
 - Use proper netting/air curtain/PVC strip with 25% overlapping .
 - Do not give food & space for roosting .
 - Keep area clean. Do not leave any open foodstuff.
 - Maintain clean drainage, and treat gutters periodically.
- c) Pest control treatments with chemical or biological agents should only be undertaken under direct supervision of trained personnel.
- d) Insecticides should only be used if other measures cannot be used effectively. Before pesticides are applied, all food, equipment and utensils should be safeguarded from contamination.
- e) After application, contaminated equipment and utensils should be thoroughly cleaned to remove residues prior to being used again.

For the students, teachers, staff, and administrators at the educational centre's safety and health, high-quality water is essential. In addition, the majority of institutions need high-quality water to run their labs, expensive equipment, heating and cooling systems, and other systems.

Applications for modern water treatment can be found everywhere, from the cafe to the pool. In recent years, the demand for RO plants in colleges and universities has risen. All children must receive free, hygienic drinking water from their institutions as a fundamental right.

These RO plants are provided for educational reasons by the governments of various cities, at a fair and affordable price. This encourages all colleges to install RO systems so that students can receive clean, safe water and enjoy better health.



1. The Dustbin is a beneficial thing for every colleges.
2. Use a dustbin for garbage or waste.
3. Use a dustbin to collect different types of wrappers.
4. There are three types of dustbin.
5. Use a dustbin to show the place where unnecessary things are kept.
6. Red ones include tin cans, paper waste, food, drinks, cardboard, etc.
7. We all use dustbins at home.
8. Dustbins keep your college clean.
9. One should use the dustbin to dispose of the wrappers of wrapped items.
10. Dustbins are very important for staying a healthy life.



- Destroys solid sanitary napkins hygienically
- Powder coated steel body
- User friendly features and easily usable
- Operates on electricity
- Burns 150 to 200 napkins per day, can be programmed for cycles/day
- Burns napkins completely producing only less than 1 gm of ash per napkin
- Ash collection tray for easy cleaning
- Automatic temperature maintenance
- Auto power off
- Auto thermal cut-off for safety of user
- Ceramic insulation for excellent thermal protection.
- Complete disposal of used napkin by burning
- Self-disposal by user by directly putting into the incinerator.
- Gets rid of the embarrassment of finding out ways to dispose used napkins.
- Eco-friendly disposal
- Less than 1 gm of ash per cycle.

EVENT -3

WASTE MANAGEMENT

Waste management is all about the “Waste control or waste disposal is all the behaviours and acts necessary to handle the waste from its inception to its final disposal. It covers the legislative and regulatory system for waste control, including recycling guidelines.

Categories of Waste

Plastic waste: Plastic wastes are the discarded products made of plastic, such as packaging material, carry bags, pouches, etc. whose life is over and are of no use as prescribed in the Plastic Waste Management Rules, 2016. They are recyclable materials. It is necessary to manage plastic waste properly because the accumulation of plastic discarded objects causes adverse effects on domestic life.

Electronic waste: Electronic waste, also known as "E-waste," refers to unwanted or useless electronic or electrical products that are non-working, broken, rejected, or have reached the end of their useful life. Some examples of electronic waste are computers, cell phones, tablets, televisions, photocopiers, fax machines,

etc. They are dangerous in nature due to toxic chemicals they release and can harm the environment. Although they can be refurbished, reused, or recycled.

Bio-waste: Bio-waste is biodegradable waste, which consists of mainly organic waste. It includes green waste generated from paper waste, gardens and parks, food and kitchen waste from households, restaurants, and food processing waste from food processing plants. In the landfill directives, it is defined as ‘waste capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and cardboard. Bio-waste is a fuel resource that may be used to produce heat and electricity.

Food waste: It refers to the decrease in mass (quantitative) or nutritional value (qualitative) of food - edible parts - throughout the supply chain that was intended for human consumption. It also refers to food that gets spilled, spoilt or otherwise lost, or incurs reduction of quality and value during its process in the food supply chain before it reaches its final product stage. It is typically taking place at production,



postharvest, processing, and distribution stages in the food supply chain.

wastes, they are given to the Tamil Nadu Municipal Corporation for its further disposal and recycling processes as per the Central and State Government policies. The College Campus has taken sufficient attempts not to use single use plastics in the campus and ‘say no to plastics’ in places like canteen, hostel dining halls, seminar halls, corridors, etc. to the students, parents and public. The Management insisted the people use eco-friendly bags made from organic materials like plant fibres which are easily decomposable in nature. These efforts are very much essential to keep the environment neat and clean to conserve nature.

Plastic waste at the source of generation observed at K.M.G College of Arts and Science,

According to E-Waste Management Rules, 2016 (Ministry of Environment, Forest and Climate Change, Government of India), electronic waste or e-waste includes old and non-functional electrical and electronic appliances. As per the Rules, the producer of the electrical and electronic equipment shall be responsible to collect and channelize the e-wastes generated under the criteria. In compliance to the E-Waste Management Rules, 2016, Government of India, e-waste materials were collected from the K.M.G College

of Art and Science are being segregated and then sold to Authorised Agencies which are approved by the Pollution Control Board (PCB) for handling e-waste. Segregation of e-waste helps in proper management of e-wastes are segregated from other waste and collected in red coloured bin. Due to this e-waste activity disposal, the e-waste pollution is significantly reduced in the Campus.



Biogas plant facility

A biogas plant is the structure where it is produced by fermenting biomass (cow dung and plant waste products). This is done by developing methane-containing fuel that is usually present in energy crops like corn, or waste substances (manure or organic food waste). The fermentation residue left over from the substrates at the end of fermentation can be used as fertilizer. Biogas is produced by the microbial/bacterial decomposition of the substrate under anaerobic situations. This is implemented by pumping the substrate into the fermenters. The substrate is stored beneath anaerobic conditions and is periodically shifted *via* agitators to avoid the formation of surface scum and sinking layers which allows the biogas to rise greater effortlessly. Installing biogas in educational institutions and industries help in the waste management process, as the wastes accumulated in canteen, hostels, mess and restaurants can be used for biogas plant, which in turn can be used for cooking. This fulfils two purposes simultaneously by energy saving and waste management. The Campus has implemented the biogas plant as one of the waste management method.



Composting

Compost is a mixture of ingredients used as plant fertilizer and to improve soil's physical, chemical, and biological properties. It is commonly prepared by decomposing plant and food waste, recycling organic materials, and manure. The resulting mixture is rich in plant nutrients and beneficial organisms, such as bacteria, protozoa, nematodes, and fungi. Compost improves soil fertility in gardens, landscaping, horticulture, urban agriculture, and organic farming, reducing dependency on commercial chemical fertilizers. The benefits of compost include providing nutrients to crops as fertilizer, acting as a soil conditioner, increasing the humus or humic acid contents of the soil, and introducing beneficial microbes that help to suppress pathogens in the soil and reduce soil-borne diseases.

At the simplest level, composting requires gathering a mix of "greens" (green waste) and "browns" (brown waste). Greens are materials rich in nitrogen, such as leaves, grass, and food scraps. Browns are woody materials rich in carbon, such as stalks, paper, and wood chips. The materials break down into humus in a process taking months. Composting can be a multistep, closely monitored process with measured inputs of water, air, and carbon- and nitrogen-rich materials. The decomposition process is aided by shredding the plant matter, adding water, and ensuring proper aeration by regularly turning the mixture in a process using open piles or "windrows". Fungi, earthworms, and other detritivores further break up the organic material. Aerobic bacteria and fungi manage the chemical process by converting the inputs into heat, carbon dioxide, and ammonium ions.

Composting is an important part of waste management, since food and other compostable materials make up about 20% of waste in landfills, and due to anaerobic conditions, these materials take longer to biodegrade in the landfill. Composting offers an environmentally superior alternative to using organic material for landfill because composting reduces methane emission due to anaerobic conditions, and provides economic

and environmental co-benefits. For example, compost can also be used for land and stream reclamation, wetland construction, and landfill cover.



The Management is taking enormous efforts continuously in providing an eco-friendly atmosphere to the students, research scholars, parents and staff members. Various kinds of degradable and non-degradable wastes such as plastics, construction & demolition, biowastes, hazardous, electronic, biomedical, solid & liquid wastes, organic & inorganic wastes are segregated properly and subjected recycle and/or given to Tamil Nadu Municipal Corporation for their further processing. The Management is also taking efforts in establishing Biogas plant, Composting Unit, organic and green manures facilities, identification of waste reduction reuse, and recycling opportunities, origination of wastes, use of disposable / reusable / eco-friendly packaging materials in the campus in a big way.

EVENT -4

GREENARY

Green Campus is a tool to evaluate environment management system which is systematically executed to protect and preserve the environment. Green Campus ensures the Organization's campus should be greenish with large diversity of trees, herbs, shrubs, climbers and lawns to reduce the environmental pollution and soil erosion; it is also useful in relation to biodiversity conservation, landscapemanagement, irrigation/economic water utilisation and maintenance of natural topography and vegetation.

Our institution promotes all kinds of green activities such as conduct of environment awareness programmes, in-campus farming, planting trees and maintenance of greening, irrigation, use of biofertilizers and avoidance of chemical fertilizers and agrochemicals.

A clean and healthy environment will enhance an effective teaching/learning process and creates a favorable learning green environment to the students.

The natural and planted vegetation and their maintenance are also considered in our organization campus through topography, landscape management design and soil erosion control in environment sustainable development.



Acalypha wilkesiana



Cocos nucifera L.



Azadiracta indica L.



Mushrooms diversity in the Campus

Mushrooms, edible basidiomycete, represent white rot fungi which contained higher amount of proteins, rich in minerals with medicinal properties. At present three mushroom varieties (white mushroom, the paddy-straw mushroom and the oyster mushroom) are being cultivated in India. These are most popular, economically sound to grow and is extensively cultivated throughout the world. Due to moderate temperature requirement for luxuriant growth, its cultivation is restricted to the cool mal growth yield is influenced by the type of compost, spawn, temperature, percentage of moisture and also affected by the pests and disease-causing agents. There has been extensive discussion in recent years, as far as the production of fungal protein from domestic, agricultural and industrial wastes. Since mushrooms have a very short lifespan, it should reach to consumers within a short time or immediately canned. Mushroom growth is determined by means of carbohydrate content in the substrates like paddy straw, sugarcane molasses, saw wood dust and other plant waste materials.



The K.M.G College of Arts and Science campus has oyster mushroom (*Pleurotus sajor-caju*) and cultivating Oyster Mushrooms in the Campus

The K.M.G College of Arts and Science has taken sufficient attempts to disseminate the green campus motto and green pledge such as 'Don't cut trees', 'Don't use plastic bags', 'Don't waste waters', 'Plastic Free Zones' and 'Preserve the Natural Resources' and etc. among the students and staff members in the campus.

The natural topography and very good landscape design without disturbing the natural vegetation are being maintained by the K.M.G College of Arts and Science. A maximum number of more oxygen releasing and carbon dioxide assimilating plants are being maintained to provide pure atmosphere

EVENT -5

ENERGY MANAGEMENT

The use of energy has been a key in the development of the human society by helping it to control and adapt to the environment. Managing the use of energy is inevitable in any functional society.

To provide our college facilities are,

- ✓ Transportation.
- ✓ *Light Intensity Measurement*
- ✓ *Energy Management and Conservation*
- ✓ *Ventilators*
- ✓ *Generators*
- ✓ *RO water*



MEASUREMENT OF CO₂ CONCENTRATION IN K.M.G. COLLEGE OF ARTS AND SCIENCE, GUDIYATTAM, VELLORE DISTRICT, TAMIL NADU.

S.No.	Different Locations of the Organization's Campus	Carbon Dioxide Level (ppm)	Remarks
1.	Canteen	450	Aspirational
2.	Classroom	520	Within permissible limits
3.	Computer Lab	460	Within permissible limits

4.	Parking area	525	Within permissible limits
5.	Open place	408	Within permissible limits
6.	Librarian room	415	Within permissible limits

LIGHT INTENSITY MEASURED AT VARIOUS LOCATIONS OF K.M.G. COLLEGE OF ARTS AND SCIENCE, GUDIYATTAM, VELLORE DISTRICT, TAMIL NADU.

S.No	Location	Light Intensity (Lux)
1.	Canteen	435-500
2.	Class room	300-350
3.	Computer Lab	300-340
4.	Librarian room	300- 340
5.	Parking area	450- 500



VENTILATORS FACILITIES AVAILABLE IN THE CAMPUS K.M.G. COLLEGE OF ARTS AND SCIENCE, GUDIYATTAM, VELLORE DISTRICT, TAMILNADU.



GENERATORS AND RO WATER FACILITIES AVAILABLE IN K.M.G. COLLEGE OF ARTS AND SCIENCE, GUDIYATTAM, VELLORE DISTRICT, TAMIL NADU.

BEST PRACTICES FOLLOWING IN THE ORGANIZATION

- Transformer, Generators and UPS are protected properly with fencing and kept awareness boards on 'Dangers' and 'Warnings'.
- Most of places, sign board of 'Switch ON' and 'Switch OFF' are kept towards saving energy measures to the stakeholders.
- Electrical wires, switch boxes and stabilizers are properly covered without any damage which will cause any problems to the staff and student members.
- Installed roof top solar power plant.
- Installed automatic switches with sensors.
- HVLS Fans are fitted in the auditorium.
- Water level controllers are used.
- Power factor is maintained near to unity with APFC.
- STP is used for water recycling which is functioning well.
- Replaced old generation computers and TVs with LED monitors.
- Promoting ECON awareness and practice among the stakeholders are being conducted periodical through Association, Clubs, Forums and Chapters.
- Usage energy efficient light-emitting diode (LED) bulbs instead of incandescent and CFL bulbs.

Social Entrepreneurship Swachata and Rural Engagement Cell programmes will aim to inspiring, Guiding and supporting the students to fulfil their dreams of becoming successful entrepreneurs.

COORDINATOR -SES REC

PRINCIPAL