



## **GOVERNMENT ORDERS AND CIRCULARS**

### **GOVERNMENT ORDER TOWARDS RESTRICTED USAGE OF PLASTICS**

As per government order G.O. (Ms) No.4/2020/ENVT dated 16/02/2020, usage of single use plastics including plastic carry bags, plastic coated leaves, flex and hordings is banned in the state of Kerala. The college seriously followed the instructions and circulated the same among staff and students.

### **GOVERNMENT ORDER TOWARDS RESTRICTED ENTRY OF VEHICLES**

As per government order, entry of vehicles is restricted inside all college campuses. The college strictly observes above order and separate parking area is allotted for students outside the campus near the campus main gate. The government order is circulated to student groups via social media platforms. The order is also displayed near college main gate. The discipline committee observes the matter seriously and any violations will be punished.



GOVERNMENT OF KERALA



Abstract

Environment Department- Ban on single use plastic items in the State w.e.f. 1.1.2020 -further clarifications-Orders issued

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ENVIRONMENT(B) DEPARTMENT

G.O.(Ms)No.4/2020/ENVT Dated,Thiruvananthapuram, 16/02/2020

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Read 1. G.O(MS) NO 111/2019/LSGD dt 29.8.2019

2. G.O(MS) No 6/2019/Envt dt 27.11.2019

3. G.O(MS) No 7/2019/Envt dt 17.12.2019

4. G.O(RT) 128/2019/Envt dt 31.12.2019

5. G.O(RT) No.6/2020/Envt dt 17.1.2020

6 G.O(RT) 9/2020/Envt dt 23.1.2020

7. G.O(MS) NO. 2/2020/Envt dt 27.01.2020

ORDER

1. State Government had imposed a blanket ban on sale, manufacture, transport and storage of single use plastic items in the State w.e.f. 1.1.2020 vide G.O read as 2nd paper above. It was also ordered that compostable/bio-degradable materials having specification as stipulated in the Plastic Waste Management Rules 2016 could be used as a replacement/substitute for the banned single use plastic. KSPCB was authorized vide GO read as 4th paper above to do tests and verify the degradability of the compostable product and submit recommendations to Government.

2. It is now noticed that large quantities of fake compostable carry bags are entering the market circumventing the plastic ban. The public and shop owners are generally unable to distinguish them, defeating the very intention of Government to get rid of plastic from the State. In the above context, State Government vide G.O read as 7th paper above have issued further clarification listing out the alternative materials that could be used as substitutes for banned single use plastic items. Accordingly carry bags whether made of compostable materials or other materials were banned and instead only cloth or paper bags are allowed to be used as carry bags.

3. In the case of hoardings, Government have already issued detailed order vide G.O read as 1st paper above banning the use of Flex/PVC materials and replacing them with Cloth or Poly Ethylene materials only. It was clearly mentioned in the order that plastic coated cloth cannot be used. But plastic coated cloth like polyester/nylon/korean cloth continue to be used for hoardings which cannot be allowed.

4. Meanwhile Government have been receiving numerous representations from various quarters seeking clarifications/suggestions/recommendations on the banned items. In

order to consider the various issues raised in these representations and to review the general situation after the plastic ban, a Task Force was constituted vide G.O read as 5th and 6th paper above. The Task force met on 28.1.2020 and 4.2.2020 and considered all the issues that were raised after the plastic ban.

5. Based on the decisions taken by the Task Force, Government hereby reiterate and issue further clarification/order as follows:

i) **There is a complete ban on carry bags even those made of compostable materials in the State and only cloth and paper bags free from plastic coating should be used as carry bags.**

ii) Plastic/plastic coated leaves used as plates are banned from the date of this order

iii) All product attached straws and other such items that are part of branded product packaging are exempted from the ban and they come under the purview of EPR.

iv) Plastic sapling bags are banned. It should be substituted with non plastic materials. For Grow bags, compostable materials can be used.

v) Garbage bags made of Compostable materials alone should be used for collecting/segregating biomedical waste.

vi) In the wake of fake compostable products entering the market, random checks shall be done on such products (products that are allowed to use compostable materials as per G.O(MS)No.2/2020/Envy dt 27.01.2020) and the authenticity/biodegradability of the products shall be tested in the labs of NIIST, IIST and KSPCB authorized labs.

vii) Compostable products should bear the details of the company that manufacture it the agency that market it, the material specification, date of manufacture, batch no, CPCB approval details with license no. and validity etc in the form of QR code. The product shall bear the title 'this is a purely compostable product' written in English and Malayalam. The product should dissolve in Dichloromethane (Methylene dichloride) and this shall be indicated in the packaging as a preliminary test for identification.

viii) With regard to the hoardings and usage of alternative materials in place of banned Flex-PVC hoardings the following guidelines are issued

**1. The use of plastic coated cloth material for hoarding is strictly banned and only cloth (plastic free), paper (plastic free) and Poly Ethylene material should be used for hoardings as a substitute of flex/pvc hoardings. While printing, it should carry the logos 'recyclable, pvc free' expiry date, name of the printing unit and printing no. The details of the consumer must be registered in the shop. For banners carrying programme details, they shall be deemed to expire after the programme date and those banners/hoardings having no expiry date are deemed to expire after 30 days and will have to be removed by the installing agency.**

**2. All the printing units in the State should publicize that only compostable materials will be used for printing purpose and this must be exhibited.**

3. Those found to be violating the Government order will be liable to pay fine as specified in the G.O read as 1st and 2nd above, eventually leading to cancellation of license

(By order of the Governor)  
**DR. USHA TITUS**  
**PRINCIPAL SECRETARY**

To:

1. The Secretary, Ministry of Environment and Climate Change, Govt of India
2. All the District Collectors
3. All the Department Heads
4. All Heads of Public Sector Units /Autonomous bodies
5. The Secretary to Governor, Raj Bhavan, Thiruvananthapuram
6. The Secretary, Legislative Assembly, Thiruvananthapuram
7. The Secretary, Kerala Public Service Commission
8. The Registrar, Kerala Administrative Tribunal (including covering letter)
9. The Registrar, Kerala High Court, Ernakulam
10. The Registrar, Kerala Lokayuktha, Thiruvananthapuram
11. The Member Secretary, State Planning Board, Pattom, Thiruvananthapuram
12. The Secretary, State Information Commission, Thiruvananthapuram
13. The Registrar, Kerala/Calicut/CUSAT/Kannur/Mahatma Gandhi Universities



14. The Registrar, Kerala Agriculture University, Mannuthy, Thrissur
15. The Registrar, Sree Sankaracharya Sanskrit University, Kalady P.O, Ernakulam
16. The Registrar, Kerala University of Health and Allied Science, Thrissur – 680596
17. The Registrar, Kerala Veterinary & Animal Husbandry Science University, Pookode, Wayanad
18. The Registrar, Kerala University of Fisheries and Ocean Studies, Panangad, Kochi
19. The Member Secretary, Central Pollution Control Board
20. The Member Secretary, State Pollution Control Board
21. The Managing Director, Clean Kerala Company
22. Executive Director, Suchitwa Mission
23. CIPET (Institute of Plastic Technology), Kochi
24. Kerala Plastic Manufacturers Association
25. All Depts in Government Secretariat (to give direction to all institutions under their control)
26. General Administration (SC) Department
27. Stock File/Office Copy (Envf.B2/198/2018-Envf)

Copy to:-

1. Private Secretary to Chief Minister
2. Private Secretary to Chief Secretary
3. . PA to Principal Secretary

Forwarded /By order



Section Officer

## Clean And Green Campus Initiatives

Government Arts & Science college upholds the environmental promotional activities inside and outside the campus under the title 'Sanjeevanam'.

The institution is committed to promoting environmental sustainability through a variety of activities and initiatives. These efforts are aimed at fostering environmental awareness, encouraging sustainable practices, and creating a green and healthy campus environment. Key activities include:

1. **Cleanliness Drives:** Regular cleanliness drives are conducted to maintain the cleanliness of the campus and the locality, in line with the vision of 'Swachh Bharat Abhiyan'.
2. **Tree Planting Campaigns:** The campus maintains thick greenery. Tree planting events are organized to increase green cover on the campus, contributing to carbon sequestration and enhancing biodiversity.
3. **Waste Management Programs:** Comprehensive waste management systems are implemented to ensure proper segregation, recycling, and disposal of waste, reducing the campus's environmental footprint.
4. **Water Conservation Initiatives:** Projects like the installation of sprinkler irrigation systems and rainwater harvesting structures are undertaken to promote efficient water use and conservation. A total water management proposal was prepared and submitted to DCE for fund allocation.
5. **Energy Conservation Measures:** Efforts are made to reduce energy consumption through the use of energy-efficient appliances, solar panels, and awareness programs on energy-saving practices.
6. **Eco-Clubs and Green Committees:** NSS, NCC, Green army and other student-led eco-clubs and green committees are active in organizing events, workshops, and campaigns to raise awareness about environmental issues and promote sustainable living practices.
7. **Biodiversity Conservation:** The campus supports biodiversity by maintaining gardens and ponds, including initiatives like growing guppies in ponds to control mosquito populations naturally. The institution always promotes research and project works related to the theme 'biodiversity'.

These activities not only help in creating a sustainable and eco-friendly campus but also instill a sense of environmental responsibility among students and staff preparing them to be conscientious global citizens.

### **SANJEEVANI BOTANICAL GARDEN**

The 'Sanjeevani Vanam' ('Sanjeevani' Botanical Garden) was started in 1992, as a medicinal plant exhibition garden, under the social forestry programme of Asst Conservator of Forest, Kozhikode. The garden was named so in 2004. It was handed over to the Dept of Botany, Govt Arts & Science College on 28<sup>th</sup> November 2012 as per order No. C-1522 dated 20-10-12. The garden consists approximately of one hectare land and is an abode of naturally growing trees, planted medicinal trees and shrubs, Nakshatra and Rashi plants etc. This lush green mini forest is a blessing to our college as well as to the neighbourhood as it is located at a heavy traffic ridden area in the heart of the city. The highlight of 'Sanjeevani' is the 'Nakshatra Vanam' or Star Plants Collection. It is a collection of 27 tree species which represent 27 birth stars as per Malayalam calendar. The 'Sanjeevani garden' provides an excellent natural habitat promoting a rich biodiversity of Bryophytes, Pteridophytes and Fungi.





### **Landscapping**

The college actively coordinates cleanliness activities and maintains beautiful landscape with the help of clubs and committees both within and outside the campus. It maintains cleanliness in accordance with the vision of 'Swatch Bharath Abhiyan'. The campus is supported by 8 permanent cleaning staff, 2 temporary staff members, and one permanent gardener to ensure that it remains green and clean. The college maintains lawns, garden, butterfly garden and vertical garden.







### **BUTTERFLY GARDEN MAINTENANCE**

Students of Department of Zoology undertook the regular maintenance of the butterfly garden in front of the Main Building of our college. Maintenance of butterfly garden in the campus provides essential habitats and food sources for butterflies, helping to support their population.







### CACTI COLLECTION

In 2018, the Department of Botany started the collection of cacti plants & planted them in pots in . Labels were placed on the pots so that students can identify & study the xerophytic modifications. Collections include rare & beautiful cacti like *Opuntia microdasys*, *Echinocactus*, and *Mammillaria* etc.



### HYDROPHYTE COLLECTION

Department of Botany took the initiative of hydrophyte collection. Common and



rare hydrophytes were there in the collection with labels on the container. The beautiful hydrophyte collection attracts students & generates curiosity in them. Hydrophyte collection included free floating ones like *Azolla*, *Lemna*, *Salvinia*, *Eichhornia* etc., submerged floating ones like *Hydrilla*, *Utricularia*, *Elodea* etc., rooted submerged like *Vallisneria*, emergent hydrophytes like *Myriophyllum*, *Marsilea* and plants like *Nymphaea*.

Collection and preservation of cacti and hydrophytes will help to maintain biodiversity and climate change mitigation.



### VERTICAL GARDEN

The Botany department constructed a vertical garden and made a green wall in 2018. This initiative was taken to offer numerous environmental benefits including improved air quality, noise reduction, temperature regulation, and biodiversity support. Green walls also contribute to aesthetic appeal, enhance indoor and outdoor spaces, and promote a sense of well-being among individuals. Overall, incorporating green walls in the college premises is a sustainable and visually appealing way to enhance the environment and promote eco-conscious practices.



### PLANTING MANGOSTINE SAPLING ON TEACHERS'S DAY

Students of Botany Department conducted a Teacher's Day celebration and they gifted a sapling of *Garcinia mangostana* (Mangostine) to the teachers of the department. The sapling was planted in the college campus.



### GIFTING OF SUCCULENTS

Succulents are low-maintenance plants that can serve as beautiful and ecofriendly gifts for guests. They were planted in attractive pots and presented to distinguished guests who visited our institution.



### MICROGREEN CULTIVATION

Microgreen refers to the foliage, baby vegetables and legumes that are harvested at a seedling stage, just after the sprouting has begun. Microgreen farming is a low investment, high dividend agricultural practice as it requires less space and money. The botany department took the initiative for microgreen farming in December 2019.



### KOKODAMA MAKING

During Covid Lockdown period students of Botany Department made 'Kokodama' plants. Kokodama, is an eco-friendly alternative to traditional plant containers. It involves planting in a natural moss-covered ball. These biodegradable and sustainable planters reduce the need for plastic pots and promote a more natural aesthetic. Additionally, Kokodama can help improve air

quality and create a calming atmosphere, making them an excellent choice for environmentally conscious initiatives.



### WEBINAR ON CONSERVATION ON MANGROVES

A webinar was organised by the Department of Zoology as part of the Magical Mangroves movement, an awareness programme for conserving mangroves in collaboration with WWF



& Godrej on 24/10/2020. Mr. Joshil Malyekkal, ACF-Social forestry, Kozhikode inaugurated the webinar. Dr Jafer Palot, Scientist, ZSI, Pune, delivered the keynote address. Sri Abdul Riyas K., Assistant Professor (Sel Grade) of the department, was the moderator of the programme.



## WORLD ENVIRONMENT DAY CELEBRATION

### Dept. of Chemistry

On 05/06/2021, as part of World Environment Day, the department of Chemistry conducted an Inter-department Digital Poster making Competition on the topic 'Human and Nature'. 3rd year

### DEPARTMENT OF CHEMISTRY



**WORLD ENVIRONMERNTAL DAY 2021**

*Reimagine , Recreate ,Restore*

compiling the pictures shared by the students of them planting trees, making paper bags and other craft works. The active participation of both teachers and students made the event a success.

student, Basil P.K. of the Chemistry Department, was selected as the winner. Also, Second year students made a video





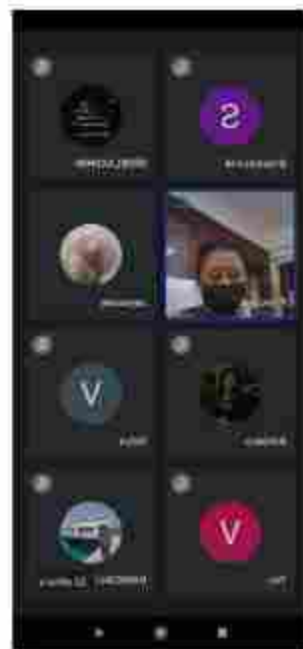


Environment Day was celebrated by conducting an Interdepartmental Photography Competition based on "Safeguarding Our Earth starts with You" and a talk on the 2021 theme. Dr. KS Anoop Das, Assistant Professor, Head and Research Supervisor at Centre for Conservation Ecology, Department of Zoology, MES College Mampad, was the chief guest. His talk on "Ecosystem Restoration" accompanied by powerpoint presentation, lasted for about one hour. Final Year student Ms. Shahana Sherin delivered the vote of thanks.



### WORLD WETLAND DAY CELEBRATION:

A webinar was organised by the Department of Botany on 05-02-2022 with Sri Hamidali Vazhakkadu (Chairman, Friends of Nature, District Co-ordinator, National Green Corps under MoEFCC, Govt of India) as the chief guest. The speech was highly motivating and enlightening. Sri Hamidali stressed the importance of keeping the wetlands intact and clean.



### AWARNESS ON THE CONSUMPTION REDUCTION AND WASTE MANAGEMENT

The department of English organized a National Webinar in collaboration with The United Nations Environment Association (UNEA) on the topic "Consumption Reduction and Waste Management" where Sri. Sanjay Upadhyay, Senior Advocate at the Supreme Court of India and Sri R.K. Dwivedi, Director, TTRC, Lohia Group, Kanpur were the resource persons. The webinar was held on 20.02.2022. The talk promoted sustainable lifestyles and encouraged students to adopt habits that prioritize long-term environmental and social well-being over short-term consumption. By raising awareness about the impacts of overconsumption and waste generation, the talk empowered people to make more informed choices about their consumption patterns.

**UNEA 5.2 Webinar Series  
Consumption Reduction  
and Waste Prevention**

Bring Back Green Foundation in  
association with the P. G. Dept. of  
English, Govt. Arts and Science  
College, Calicut.

**20th February  
07:00PM Onwards**

**Speakers:**

**Shri Ranjay Upadhyay**  
Senior Advocate, Supreme Court

**Shri R K Dwivedi**  
Director TTBC  
Lohia Group, Rampur



**Register Now**



## **VEGETABLE CULTIVATION BY GASC KARSHAKASANGHAM**

GASC Karshakasangham is an initiative to create interest among students in agriculture. In 2020-23, under the leadership of teacher coordinator Dr. Swapna K S, Associate Professor of Botany and Nature Club coordinator Ms. Shyima, Assistant Professor of Zoology, students from various departments participated in cultivation of vegetable crops in the campus. The main crops planted include Pea, Tomato, Chilly, Spinach, Brinjal, Pumpkin, Bottle gourd etc. Good harvest was collected and supplied to the canteen, student participants, and also sold to staff.









### REUSE OF CONSTRUCTION MATERIALS

Repurposing old construction materials for new structures is a sustainable practice that reduces waste and environmental impact. This can reduce the demand for new resources and decrease carbon emissions associated with manufacturing new materials. This approach aligns with green initiatives by promoting resource conservation and minimizing the carbon footprint of construction projects. In our institution old construction materials were repurposed and used to make grill and gate near the Auditorium. The work was done with the finding from PTA of the college.



## CAMPUS GARDEN AND GREEN HOUSE

Botany department of the institution maintains a campus garden which offers a wide range of benefits like promoting sustainability, providing educational opportunities and enhancing community engagement. By creating a space where students, faculty, and staff can participate in gardening activities, a deeper connection with nature can be fostered. This way sustainable practices among students can be encouraged. A campus garden is an effective way to promote environmental stewardship and create a more sustainable campus community. Green house helps in the conservation of ferns and xerophytes.







### **GREEN PROTOCOL INITIATIVES IN THE CAMPUS**

Steel glasses are reusable and durable containers that eliminate the need for disposable plastic cups or bottles, thus reducing plastic waste. Unlike some plastics, they do not leach harmful chemicals into beverages, promoting safer drinking options. Our institution uses steel glasses for all programmes such as seminars, workshops, PTA meetings etc. to reduce paper glass waste and to promote sustainability.



**Acoustic proof in indoor and outdoor seminar halls, auditorium, and stadium**

Acoustic proof is installed in the college auditorium and seminar hall reduces sound pollution.



## **WATER CONSERVATION STRATEGIES**

### **Attempts made for water scarcity during the summer season**

There are two open wells and one bore well in the campus and one open well near the hostel. A new bore well is constructed near college hostel to overcome water scarcity. Total water management plan is prepared by water management committee and report is submitted to DCE Kerala for fund allocation. Plan report is attached.

[https://drive.google.com/file/d/1gPn0JnbI4rsKK2zK5dNUoXUk0D31J8Gk/view?usp=drive\\_link](https://drive.google.com/file/d/1gPn0JnbI4rsKK2zK5dNUoXUk0D31J8Gk/view?usp=drive_link)

### **Biodiversity conservation education, projects, awareness programs, etc**

UG projects were carried out related to biodiversity conservation by students of the departments of Botany and Zoology. The project details are available through the following link:

[https://drive.google.com/drive/folders/1nAG1CTygcmRfC4gxY\\_3tlx5TUilqyGqu?usp=sharing](https://drive.google.com/drive/folders/1nAG1CTygcmRfC4gxY_3tlx5TUilqyGqu?usp=sharing)

Biodiversity conservation education and awareness programmes are available through the following link:

[https://docs.google.com/document/d/1Lr35Iba9ISOxw97B0-6bSTX\\_HEscDVq/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true](https://docs.google.com/document/d/1Lr35Iba9ISOxw97B0-6bSTX_HEscDVq/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true)

The college hosted the Biodiversity state conference for the year 2022-23. All the stakeholders of the college wholeheartedly worked hard for the success of the programme. The programme was a real education programme for all the stakeholders.

[https://docs.google.com/document/d/1sHZM21Yn83\\_gQj-0bxOp05H1ff-xXDN9/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true](https://docs.google.com/document/d/1sHZM21Yn83_gQj-0bxOp05H1ff-xXDN9/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true)



During infrastructure augmentation, it is always ensured that the flora and fauna on the campus are not disturbed.



#### **Control measures taken for mosquitos, vectors, and predators**

The pond within the garden near science block is the only open water body on campus, apart from the two main open wells. Guppies are grown in this pond to control mosquito growth.



### **Establishment of aquarium and water plants**

The departments of botany and Zoology maintains aquariums and diverse water plants. There is an open pond in the middle of the garden near the science block.



### **Establishment of lawns, trees, herbs, shrubs, and climbers on the campus**

The college maintains lawns, garden, Zodiac garden, butterfly garden and vertical garden.



### **Establishment of terrace garden and kitchen garden**

A terrace garden is maintained near the college office. Vegetable gardens are maintained by NSS, Bhoomithrasena and Karshaka sangham.







### Frequency of watering for plantations

There is a gardener in the college to look after and maintain plants and garden. Watering is done twice a week, considering the scarcity of water in the campus during the summer season. Sprinkler system in the garden near science block helps to reduce water usage.

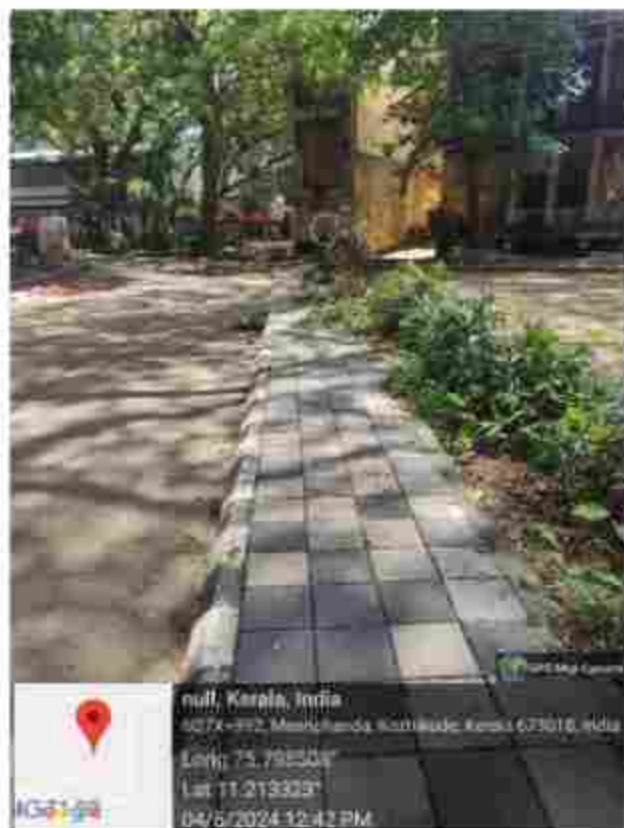
### Restricted entry of vehicles

Vehicle entry is restricted within the campus to mitigate pollution and safeguard student safety. A designated parking area for staff is situated adjacent to the main building, while pedestrian-friendly pathways connect different areas of the campus. Student vehicle parking is located outside the campus near the main gate, in compliance with government regulations. Instructional signboards are placed at appropriate places.



### Pedestrian-friendly walkways

Pedestrian-friendly walkways in college campus promote a safe and accessible environment for students, faculty, and visitors to navigate between buildings and facilities. Moreover, well-designed walkways can enhance the overall aesthetic appeal of the college, contributing to a positive and conducive learning environment.



### **Herbal, zodiac, medicinal, and ornamental plants garden on the campus**

The 'Sanjeevani Vanam' ('Sanjeevani' Botanical Garden) was started in 1992, as a medicinal plant exhibition garden, under the social forestry programme of Asst Conservator of Forest, Kozhikode. The garden was named so in 2004. It was handed over to the Dept of Botany, Govt Arts & Science College on 28<sup>th</sup> November 2012 as per order No. C-1522 dated 20-10-12. The garden consists approximately of one hectare land and is an abode of naturally growing trees, planted medicinal trees and shrubs, Nakshatra and Rashi plants etc. This lush green mini forest is a blessing to our college as well as to the neighbourhood as it is located at a heavy traffic ridden area in the heart of the city. The highlight of 'Sanjeevani' is the 'Nakshatra Vanam' or Star Plants Collection. It is a collection of 27 tree species which represent 27 birth stars as per Malayalam calendar. The 'Sanjeevani garden' provides an excellent natural habitat promoting a rich biodiversity of Bryophytes, Pteridophytes and Fungi.



Medicinal and ornamental plants are also maintained in the botanical garden by department of Botany.

#### Environmental promotion activities outside of the campus

##### **Beach cleaning at Calicut North Beach.**

Students cleaned Calicut north beach in connection with observance of World Ocean Day on 08.06.2022. The programme was conducted in collaboration with National Centre For Ocean Research (NCCR) MoEF, Govt. Of India & Oceanic Society Of India Cochin Chapter. Dr. S Jayasree, Chairperson of health, Calicut Corporation inaugurated the function at Calicut beach. The ward councilor and health inspector also participated in the event.





### **One-day camp in connection with World Snake Day**

One-day camp was arranged at Vanaparvam biodiversity park, Kakkavayal, in connection with world snake day on 16.06.2022, in collaboration with Kerala Forest and Wildlife department – Social Forestry extension division. The camp was inaugurated by Beena Tharakan- President Puduppadi Grama Panchayath. Sri. Arun Prakash Lal, a licensed snake rescuer, presented an awareness class on snake bites - first aid & prevention.



### **Activities of GASC KARSHAKASANGHAM**

As per the orders received from directorate of collegiate education, in order to create interest among students towards agriculture, Karshakasangham unit created with interested student participants under the leadership of teacher coordinator Dr. Swapna K S, Associate Professor of Botany and Nature Club coordinator Ms. Shijina, Assistant Professor of Zoology. Seeds and seedlings were collected from Krishbhavan. Our students actively participated in preparing potting mixture, bagging, sowing, watering etc. The main crops planted include Pea, Tomato, Chilly, Spinach, Brinjal, ladies' finger, Pumpkin, bottle gourd etc. Good harvest also collected and supplied to the canteen, student participants, and also sold to staff.

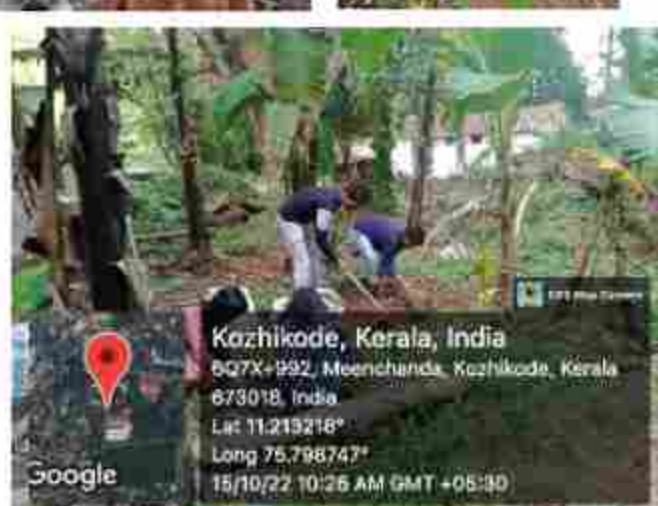
Regular attendance of students was noted and remuneration also calculated in order to distribute a sum of rupees (Rs10,000/-)ten thousand only towards remuneration under Earn While You Learn scheme.

**Expenditure statement of vegetable cultivation under Earn While You Learn Scheme**

Remuneration details of participating students

1. Dipindas P	II Year B.Sc Chemistry	45 hours x 50 = Rs 2250/-
2. Muhammed Afsal P T	II Year B A Economics	45 hours X 50 = Rs 2250/-
3. Anamika K	II Year B.Sc Botany	45 hours x 50 = Rs 2250/-
4. Antonio Gramshi R D	II Year B.sc Botany	45 hours x 50 = Rs 2250/-
5. Manas	II year BA History	20 hours x 50 = Rs 1000/-

Total Expenditure towards remuneration = Rs 10000/- (Rupees ten thousand only)









### Activities of Compulsory Social Service (CSS)

A CSS meeting was held on August 23, 2022, under the guidance of Principal Dr. Edakkotte Shaji. The decision was made to appoint three students and one teacher coordinator from each department to facilitate the smooth functioning of CSS activities at our college. Dedicated areas were assigned on campus for each department. Every week, under the supervision of their respective teacher coordinators, students dedicated a total of 12 hours to campus cleaning and other assigned tasks.



The students actively contributed to the success of the Bio Diversity Exhibition. Both alumni and the Bio Diversity team appreciated their efforts.



## Activities of Campuses of Kozhikode (CCEK)

### Kilikalum Koolavatte

This program is meant for offering drinking water for birds in and outside the campus. We put water in pots for birds in different parts of the campus. Principal in Charge Dr. Moncy Mathew inaugurated the program.



### World Water Day Celebration



As part of World Water Day Celebration a Digital Poster making competition was conducted on the theme 'Water conservation'.



## World Environment Day

The day was celebrated by Planting saplings and Collecting plastic waste from the campus. A sapling of Rose Apple Tree ( *Syzygium jambos* ) was planted in front of the Golden Jubilee Building. In fact the campus is full of trees. So, there is no need of planting more saplings. The aim is to plant different plants that are not available in the campus on special occasions and conserve them. The Principal Dr. Edakkotte Shaji inaugurated the program.



## Activities of Beautification & Waste Management Committee

During the year 2021-22, second phase of beautification works were carried out by the start-up firm 'Cyber Samana'. Before the conduct of their work an expert in the field of campus beautification, Dr. A. K. Pradeep, from Calicut University visited our campus and valuable suggestions were given in this regard. During the second phase of beautification work, soft and hard land scaping were done by the firm.

A clean sweep of all plastic wastes was carried out by the college NSS unit, and handed it over to Kozhikode corporation. Campus cleaning and beautification works were done by NCC, NSS and student volunteers under the guidance of faculty members of the college.











Inauguration:

**birdclub - gare**

**Govt. Arts & Science College Calicut**

**SATHYAN MEPPAYUR**

*President, Malabar Natural History Society*



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4. **Water Conservation Initiatives:** Projects like the installation of sprinkler irrigation systems and rainwater harvesting structures are undertaken to promote efficient water use and conservation. A total water management proposal was prepared and submitted to DCE for fund allocation.
5. **Energy Conservation Measures:** Efforts are made to reduce energy consumption through the use of energy-efficient appliances, solar panels, and awareness programs on energy-saving practices.
6. **Eco-Clubs and Green Committees:** NSS, NCC, Green army and other student-led eco-clubs and green committees are active in organizing events, workshops, and campaigns to raise awareness about environmental issues and promote sustainable living practices.
7. **Biodiversity Conservation:** The campus supports biodiversity by maintaining gardens and ponds, including initiatives like growing guppies in ponds to control mosquito populations naturally. The institution always promotes research and project works related to the theme 'biodiversity'.

These activities not only help in creating a sustainable and eco-friendly campus but also instill a sense of environmental responsibility among students and staff preparing them to be conscientious global citizens.

### **SANJEEVANI BOTANICAL GARDEN**

The 'Sanjeevani Vanam' ('Sanjeevani' Botanical Garden) was started in 1992, as a medicinal plant exhibition garden, under the social forestry programme of Asst Conservator of Forest, Kozhikode. The garden was named so in 2004. It was handed over to the Dept of Botany, Govt Arts & Science College on 28<sup>th</sup> November 2012 as per order No. C-1522 dated 20-10-12. The garden consists approximately of one hectare land and is an abode of naturally growing trees, planted medicinal trees and shrubs, Nakshatra and Rashi plants etc. This lush green mini forest is a blessing to our college as well as to the neighbourhood as it is located at a heavy traffic ridden area in the heart of the city. The highlight of 'Sanjeevani' is the 'Nakshatra Vanam' or Star Plants Collection. It is a collection of 27 tree species which represent 27 birth stars as per Malayalam calendar. The 'Sanjeevani garden' provides an excellent natural habitat promoting a rich biodiversity of Bryophytes, Pteridophytes and Fungi.







### **Landscapping**

The college actively coordinates cleanliness activities and maintains beautiful landscape with the help of clubs and committees both within and outside the campus. It maintains cleanliness in accordance with the vision of 'Swatch Bharath Abhiyan'. The campus is supported by 8 permanent cleaning staff, 2 temporary staff members, and one permanent gardener to ensure that it remains green and clean. The college maintains lawns, garden, butterfly garden and vertical garden.





### **BUTTERFLY GARDEN MAINTENANCE**

Students of Department of Zoology undertook the regular maintenance of the butterfly garden in front of the Main Building of our college. Maintenance of butterfly garden in the campus provides essential habitats and food sources for butterflies, helping to support their population.







### CACTI COLLECTION

In 2018, the Department of Botany started the collection of cacti plants & planted them in pots in . Labels were placed on the pots so that students can identify & study the xerophytic modifications. Collections include rare & beautiful cacti like *Opuntia microdasys*, *Echinocactus*, and *Mammillaria* etc.



### HYDROPHYTE COLLECTION

Department of Botany took the initiative of hydrophyte collection. Common and



rare hydrophytes were there in the collection with labels on the container. The beautiful hydrophyte collection attracts students & generates curiosity in them. Hydrophyte collection included free floating ones like *Azolla*, *Lemna*, *Salvinia*, *Eichhornia* etc., submerged floating ones like *Hydrilla*, *Utricularia*, *Elodea* etc., rooted submerged like *Vallisneria*, emergent hydrophytes like *Myriophyllum*, *Marsilea* and plants like *Nymphaea*.

Collection and preservation of cacti and hydrophytes will help to maintain biodiversity and climate change mitigation.

### VERTICAL GARDEN

The Botany department constructed a vertical garden and made a green wall in 2018. This initiative was taken to offer numerous environmental benefits including improved air quality, noise reduction, temperature regulation, and biodiversity support. Green walls also contribute to aesthetic appeal, enhance indoor and outdoor spaces, and promote a sense of well-being among individuals. Overall, incorporating green walls in the college premises is a sustainable and visually appealing way to enhance the environment and promote eco-conscious practices.



### PLANTING MANGOSTINE SAPLING ON TEACHERS'S DAY

Students of Botany Department conducted a Teacher's Day celebration and they gifted a sapling of *Garcinia mangostana* (Mangostene) to the teachers of the department. The sapling was planted in the college campus.





### GIFTING OF SUCCULENTS

Succulents are low-maintenance plants that can serve as beautiful and ecofriendly gifts for guests. They were planted in attractive pots and presented to distinguished guests who visited our institution.



### MICROGREEN CULTIVATION

Microgreen refers to the foliage, baby vegetables and legumes that are harvested at a seedling stage, just after the sprouting has begun. Microgreen farming is a low investment, high dividend agricultural practice as it requires less space and money. The botany department took the initiative for microgreen farming in December 2019.



### KOKODAMA MAKING

During Covid Lockdown period students of Botany Department made 'Kokodama' plants. Kokodama, is an eco-friendly alternative to traditional plant containers. It involves planting in a natural moss-covered ball. These biodegradable and sustainable planters reduce the need for plastic pots and promote a more natural aesthetic. Additionally, Kokodama can help improve air

quality and create a calming atmosphere, making them an excellent choice for environmentally conscious initiatives.



### WEBINAR ON CONSERVATION ON MANGROVES

A webinar was organised by the Department of Zoology as part of the Magical Mangroves movement, an awareness programme for conserving mangroves in collaboration with WWF



& Godrej on 24/10/2020. Mr. Joshi Malyyekkal, ACF-Social forestry, Kozhikode inaugurated the webinar. Dr Jafer Palot, Scientist, ZSI, Pune, delivered the keynote address. Sri Abdul Riyas K., Assistant Professor (Sel Grade) of the department, was the moderator of the programme.

## WORLD ENVIRONMENT DAY CELEBRATION

### Dept. of Chemistry

On 05/06/2021, as part of World Environment Day, the department of Chemistry conducted an Inter-department Digital Poster making Competition on the topic 'Human and Nature'. 3rd year

### DEPARTMENT OF CHEMISTRY



**WORLD ENVIRONMERNTAL DAY 2021**

*Reimagine , Recreate ,Restore*

compiling the pictures shared by the students of them planting trees, making paper bags and other craft works. The active participation of both teachers and students made the event a success.

student, Basil P.K. of the Chemistry Department, was selected as the winner. Also, Second year students made a video





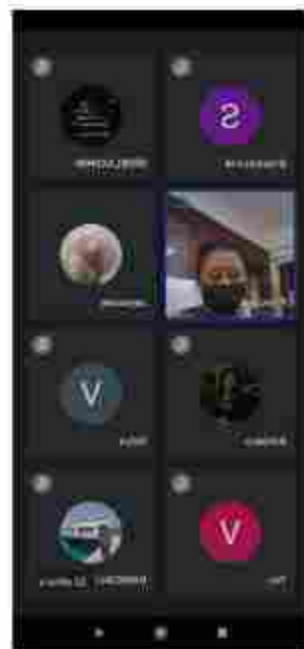


Environment Day was celebrated by conducting an Interdepartmental Photography Competition based on "Safeguarding Our Earth starts with You" and a talk on the 2021 theme. Dr. KS Anoop Das, Assistant Professor, Head and Research Supervisor at Centre for Conservation Ecology, Department of Zoology, MES College Mampad, was the chief guest. His talk on "Ecosystem Restoration" accompanied by powerpoint presentation, lasted for about one hour. Final Year student Ms. Shahana Sherin delivered the vote of thanks.



### WORLD WETLAND DAY CELEBRATION:

A webinar was organised by the Department of Botany on 05-02-2022 with Sri Hamidali Vazhakkadu (Chairman, Friends of Nature, District Co-ordinator, National Green Corps under MoEFCC, Govt of India) as the chief guest. The speech was highly motivating and enlightening. Sri Hamidali stressed the importance of keeping the wetlands intact and clean.



### AWARNESS ON THE CONSUMPTION REDUCTION AND WASTE MANAGEMENT

The department of English organized a National Webinar in collaboration with The United Nations Environment Association (UNEA) on the topic "Consumption Reduction and Waste Management" where Sri. Sanjay Upadhyay, Senior Advocate at the Supreme Court of India and Sri R.K. Dwivedi, Director, T.T.R.C. Lohia Group, Kanpur were the resource persons. The webinar was held on 20.02.2022. The talk promoted sustainable lifestyles and encouraged students to adopt habits that prioritize long-term environmental and social well-being over short-term consumption. By raising awareness about the impacts of overconsumption and waste generation, the talk empowered people to make more informed choices about their consumption patterns.

**UNEA 5.2 Webinar Series  
Consumption Reduction  
and Waste Prevention**

Bring Back Green Foundation in  
association with the P. G. Dept. of  
English, Govt. Arts and Science  
College, Calicut.

**20th February  
07:00PM Onwards**

**Speakers:**

**Shri Ranjay Upadhyay**  
Senior Advocate, Supreme Court

**Shri R K Dwivedi**  
Director TTBC  
Lohia Group, Rampur



**Register Now**



## **VEGETABLE CULTIVATION BY GASC KARSHAKASANGHAM**

GASC Karshakasangham is an initiative to create interest among students in agriculture. In 2020-23, under the leadership of teacher coordinator Dr. Swapna K S, Associate Professor of Botany and Nature Club coordinator Ms. Shyima, Assistant Professor of Zoology, students from various departments participated in cultivation of vegetable crops in the campus. The main crops planted include Pea, Tomato, Chilly, Spinach, Brinjal, Pumpkin, Bottle gourd etc. Good harvest was collected and supplied to the canteen, student participants, and also sold to staff.







## REUSE OF CONSTRUCTION MATERIALS

Repurposing old construction materials for new structures is a sustainable practice that reduces waste and environmental impact. This can reduce the demand for new resources and decrease carbon emissions associated with manufacturing new materials. This approach aligns with green initiatives by promoting resource conservation and minimizing the carbon footprint of construction projects. In our institution old construction materials were repurposed and used to make grill and gate near the Auditorium. The work was done with the finding from PTA of the college.





## CAMPUS GARDEN AND GREEN HOUSE

Botany department of the institution maintains a campus garden which offers a wide range of benefits like promoting sustainability, providing educational opportunities and enhancing community engagement. By creating a space where students, faculty, and staff can participate in gardening activities, a deeper connection with nature can be fostered. This way sustainable practices among students can be encouraged. A campus garden is an effective way to promote environmental stewardship and create a more sustainable campus community. Green house helps in the conservation of ferns and xerophytes.







### **GREEN PROTOCOL INITIATIVES IN THE CAMPUS**

Steel glasses are reusable and durable containers that eliminate the need for disposable plastic cups or bottles, thus reducing plastic waste. Unlike some plastics, they do not leach harmful chemicals into beverages, promoting safer drinking options. Our institution uses steel glasses for all programmes such as seminars, workshops, PTA meetings etc. to reduce paper glass waste and to promote sustainability.



**Acoustic proof in indoor and outdoor seminar halls, auditorium, and stadium**

Acoustic proof is installed in the college auditorium and seminar hall reduces sound pollution.



### **WATER CONSERVATION STRATEGIES**

#### **Attempts made for water scarcity during the summer season**

There are two open wells and one bore well in the campus and one open well near the hostel. A new bore well is constructed near college hostel to overcome water scarcity. Total water management plan is prepared by water management committee and report is submitted to DCE Kerala for fund allocation. Plan report is attached.

[https://drive.google.com/file/d/1gPn0JnbI4rsKK2zK5dNUoXUk0D31J8Gk/view?usp=drive\\_link](https://drive.google.com/file/d/1gPn0JnbI4rsKK2zK5dNUoXUk0D31J8Gk/view?usp=drive_link)

#### **Biodiversity conservation education, projects, awareness programs, etc**

UG projects were carried out related to biodiversity conservation by students of the departments of Botany and Zoology. The project details are available through the following link:

[https://drive.google.com/drive/folders/1nAG1CTygcRfC4gxY\\_3tlx5TUilqyGqu?usp=sharing](https://drive.google.com/drive/folders/1nAG1CTygcRfC4gxY_3tlx5TUilqyGqu?usp=sharing)

Biodiversity conservation education and awareness programmes are available through the following link:

[https://docs.google.com/document/d/1Lr35Iba9ISOxw97B0-6bSTX\\_HEscDVq/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true](https://docs.google.com/document/d/1Lr35Iba9ISOxw97B0-6bSTX_HEscDVq/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true)

The college hosted the Biodiversity state conference for the year 2022-23. All the stakeholders of the college wholeheartedly worked hard for the success of the programme. The programme was a real education programme for all the stakeholders.

[https://docs.google.com/document/d/1sHZM21Yn83\\_gQj-0bxOp05H1ff-xXDN9/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true](https://docs.google.com/document/d/1sHZM21Yn83_gQj-0bxOp05H1ff-xXDN9/edit?usp=sharing&oid=110794645267758459705&rtpof=true&sd=true)

During infrastructure augmentation, it is always ensured that the flora and fauna on the campus are not disturbed.



#### **Control measures taken for mosquitos, vectors, and predators**

The pond within the garden near science block is the only open water body on campus, apart from the two main open wells. Guppies are grown in this pond to control mosquito growth.





### **Establishment of aquarium and water plants**

The departments of botany and Zoology maintains aquariums and diverse water plants. There is an open pond in the middle of the garden near the science block.



### **Establishment of lawns, trees, herbs, shrubs, and climbers on the campus**

The college maintains lawns, garden, Zodiac garden, butterfly garden and vertical garden.



### **Establishment of terrace garden and kitchen garden**

A terrace garden is maintained near the college office. Vegetable gardens are maintained by NSS, Bhoomithrasena and Karshaka sangham.





### Frequency of watering for plantations

There is a gardener in the college to look after and maintain plants and garden. Watering is done twice a week, considering the scarcity of water in the campus during the summer season. Sprinkler system in the garden near science block helps to reduce water usage.

### Restricted entry of vehicles

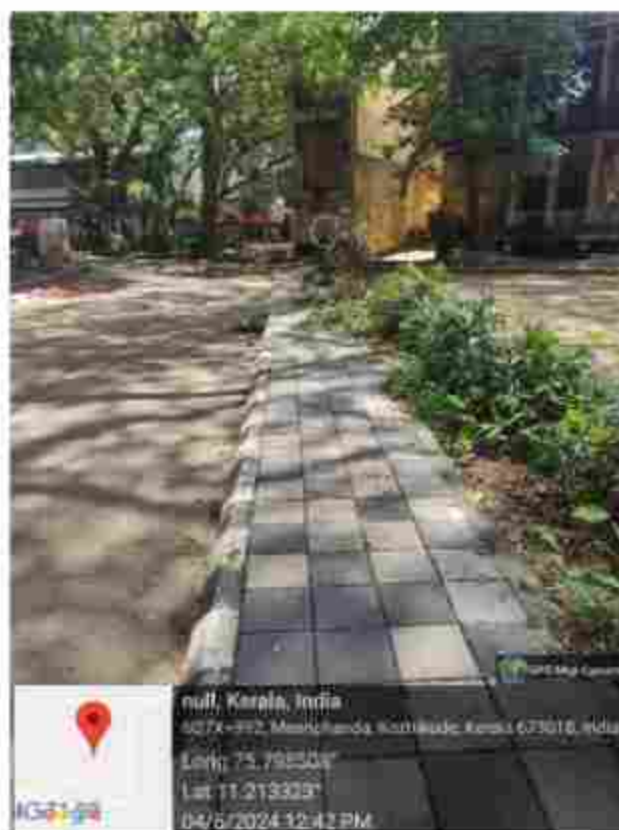
Vehicle entry is restricted within the campus to mitigate pollution and safeguard student safety. A designated parking area for staff is situated adjacent to the main building, while pedestrian-friendly pathways connect different areas of the campus. Student vehicle parking is located outside the campus near the main gate, in compliance with government regulations. Instructional signboards are placed at appropriate places.



### Pedestrian-friendly walkways

Pedestrian-friendly walkways in college campus promote a safe and accessible environment for students, faculty, and visitors to navigate between buildings and facilities. Moreover, well-designed walkways can enhance the overall aesthetic appeal of the college, contributing to a positive and conducive learning environment.





### **Herbal, zodiac, medicinal, and ornamental plants garden on the campus**

The 'Sanjeevani Vanam' ('Sanjeevani' Botanical Garden) was started in 1992, as a medicinal plant exhibition garden, under the social forestry programme of Asst Conservator of Forest, Kozhikode. The garden was named so in 2004. It was handed over to the Dept of Botany, Govt Arts & Science College on 28<sup>th</sup> November 2012 as per order No. C-1522 dated 20-10-12. The garden consists approximately of one hectare land and is an abode of naturally growing trees, planted medicinal trees and shrubs, Nakshatra and Rashi plants etc. This lush green mini forest is a blessing to our college as well as to the neighbourhood as it is located at a heavy traffic ridden area in the heart of the city. The highlight of 'Sanjeevani' is the 'Nakshatra Vanam' or Star Plants Collection. It is a collection of 27 tree species which represent 27 birth stars as per Malayalam calendar. The 'Sanjeevani garden' provides an excellent natural habitat promoting a rich biodiversity of Bryophytes, Pteridophytes and Fungi.



Medicinal and ornamental plants are also maintained in the botanical garden by department of Botany.

#### Environmental promotion activities outside of the campus

##### **Beach cleaning at Calicut North Beach.**

Students cleaned Calicut north beach in connection with observance of World Ocean Day on 08.06.2022. The programme was conducted in collaboration with National Centre For Ocean Research (NCCR) MoEF, Govt. Of India & Oceanic Society Of India Cochin Chapter. Dr. S Jayasree, Chairperson of health, Calicut Corporation inaugurated the function at Calicut beach. The ward councilor and health inspector also participated in the event.



### **One-day camp in connection with World Snake Day**

One-day camp was arranged at Vanaparvam biodiversity park, Kakkavayal, in connection with world snake day on 16.06.2022, in collaboration with Kerala Forest and Wildlife department – Social Forestry extension division. The camp was inaugurated by Beena Tharakan- President Puduppadi Grama Panchayath. Sri. Arun Prakash Lal, a licensed snake rescuer, presented an awareness class on snake bites - first aid & prevention.



### **Activities of GASC KARSHAKASANGHAM**

As per the orders received from directorate of collegiate education, in order to create interest among students towards agriculture, Karshakasangham unit created with interested student participants under the leadership of teacher coordinator Dr. Swapna K S, Associate Professor of Botany and Nature Club coordinator Ms. Shijina, Assistant Professor of Zoology. Seeds and seedlings were collected from Krishabhavan. Our students actively participated in preparing potting mixture, bagging, sowing, watering etc. The main crops planted include Pea, Tomato, Chilly, Spinach, Brinjal, ladies' finger, Pumpkin, bottle gourd etc. Good harvest also collected and supplied to the canteen, student participants, and also sold to staff.



Regular attendance of students was noted and remuneration also calculated in order to distribute a sum of rupees (Rs10,000/-)ten thousand only towards remuneration under Earn While You Learn scheme.

**Expenditure statement of vegetable cultivation under Earn While You Learn Scheme**

Remuneration details of participating students

1. Dipindas P	II Year B.Sc Chemistry	45 hours x 50 = Rs 2250/-
2. Muhammed Afsal P T	II Year B A Economics	45 hours X 50 = Rs 2250/-
3. Anamika K	II Year B.Sc Botany	45 hours x 50 = Rs 2250/-
4. Antonio Gramshi R D	II Year B.sc Botany	45 hours x 50 = Rs 2250/-
5. Manas	II year BA History	20 hours x 50 = Rs 1000/-

Total Expenditure towards remuneration = Rs 10000/- (Rupees ten thousand only)









### Activities of Compulsory Social Service (CSS)

A CSS meeting was held on August 23, 2022, under the guidance of Principal Dr. Edakkotte Shaji. The decision was made to appoint three students and one teacher coordinator from each department to facilitate the smooth functioning of CSS activities at our college. Dedicated areas were assigned on campus for each department. Every week, under the supervision of their respective teacher coordinators, students dedicated a total of 12 hours to campus cleaning and other assigned tasks.

The students actively contributed to the success of the Bio Diversity Exhibition. Both alumni and the Bio Diversity team appreciated their efforts.



## Activities of Campuses of Kozhikode (CCEK)

### Kilikalum Koolavatte

This program is meant for offering drinking water for birds in and outside the campus. We put water in pots for birds in different parts of the campus. Principal in Charge Dr. Moncy Mathew inaugurated the program.



### World Water Day Celebration



As part of World Water Day Celebration a Digital Poster making competition was conducted on the theme 'Water conservation'.



## World Environment Day

The day was celebrated by Planting saplings and Collecting plastic waste from the campus. A sapling of Rose Apple Tree ( *Syzygium jambos* ) was planted in front of the Golden Jubilee Building. In fact the campus is full of trees. So, there is no need of planting more saplings. The aim is to plant different plants that are not available in the campus on special occasions and conserve them. The Principal Dr. Edakkotte Shaji inaugurated the program.





## Activities of Beautification & Waste Management Committee

During the year 2021-22, second phase of beautification works were carried out by the start-up firm 'Cyber Samana'. Before the conduct of their work an expert in the field of campus beautification, Dr. A. K. Pradeep, from Calicut University visited our campus and valuable suggestions were given in this regard. During the second phase of beautification work, soft and hard land scaping were done by the firm.

A clean sweep of all plastic wastes was carried out by the college NSS unit, and handed it over to Kozhikode corporation. Campus cleaning and beautification works were done by NCC, NSS and student volunteers under the guidance of faculty members of the college.









Inauguration:

**birdclub - gare**

**Govt. Arts & Science College Calicut**

**SATHYAN MEPPAYUR**

*President, Malabar Natural History Society*

