



# **GEMS ARTS AND SCIENCE COLLEGE**

**An ISO 9001 : 2015 Certified Institution**

**(A unit of Global Education and Management Studies Co-operative Ltd., No. M. 782)**

**(Affiliated to University of Calicut and UGC Recognized under Section 2 (f) of UGC Act 1956)**

**Ramapuram, Kadungapuram P.O, Malappuram Dt., Kerala. Pin - 679321, Ph : 04933-256123, 255700**

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## **7.1.3**

# **ENVIRONMENTAL AND ENERGY AUDIT AND INITIATIVES**

**(ACTION TAKEN REPORT OF GREEN CAMPUS)**





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## GREEN CAMPUS INITIATIVES: FIVE-YEAR ACTION TAKEN REPORT

2018-2023

Green campus initiatives are essential part of the education system and the institutions can actively promote these principles via curricular and co-curricular activities. The main objectives for these green initiatives were enhancing environmental awareness, sustainable energy and water management, biodiversity in the campus.

### OBJECTIVES

- Sustainable and climate resilient campus
- Conserve native flora and fauna
- Resource management
- Environmental awareness through curricular and co-curricular activities



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## GREEN CAMPUS INITIATIVES

### YEAR 1: 2018-19

- To actively implement sustainable Waste Management measures the authority implemented comprehensive waste segregation systems, initiated recycling programs, and reduced single-use plastics across campus. As a part of this to assure waste segregation in initial stage itself they provided colour bins to collect the wastes.
- To conserve the non-renewable energy sources an energy audit was conducted and implemented LED lighting, periodical assessment of electrical and electronics goods, adopted renewable energy sources such as solar power, resulting a 15% reduction in overall energy consumption.
- To initiate water conservation activities water-saving campaigns were conducted for students and staffs in association with NSS and Nature club. As part of this installation of water-efficient appliances and landscaping strategies such as *mazhakuzhikal* were implemented for water conservation. Owing to this a 20% reduction in water consumption and water recharge was done effectively.
- Beyond-Campus Environmental Promotion: Expanded our commitment to sustainability beyond the campus borders by organising environmental promotion activities, collaborating with local communities, and actively participating in regional initiatives for a greener environment. As part of this campus conducted two resource classes on waste management in association with local self government and also from Haritha Kerala Mission



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## YEAR 2: 2019-20

- Car Pooling Day and No Car Day initiatives were implemented successfully in the campus, reducing carbon emissions, promoting a sense of community awareness, and providing eco-friendly alternatives for commuting. Four working days in a month were celebrated as “Car Pooling and No Car Day” on campus.
- Green Building Design: Campus incorporated eco-friendly materials in new constructions retrofitted existing buildings for energy efficiency. The good practices such as exploring maximum natural sources of light/ air ventilation in indoor area, fenestration plan, skylight roof ratio, and daylight luminance were optimally used in the new construction in order to save electricity consumption.
- In association with NSS and nature club a medicinal garden was successfully introduced in the campus. The plants were collected locally by the volunteers. It helped the volunteers a lot to identify, learn the local names and its medicinal properties of the plants. It directly helped to promote both local biodiversity conservation and environmental sustainability.
- Nature Awareness Programs and Competitions: Conducted a series of nature awareness programs, engaging both students and staff in events such as competitions and debates, fostering a deeper understanding of environmental issues and promoting a culture of eco-consciousness within the college community. During this year campus celebrated world wildlife week and World Environment Day.



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## YEAR 3: 2020-21

- Institute initiated a green campus policy to conserve local biodiversity. As a result the green spaces in the campus have considerably increased. To attain this introduced native plants mainly trees and shrubs were planted and created biodiversity-friendly zones. The spread of invasive plants species is also controlled to increase biodiversity on campus.
- Sustainable Practices: Implemented paperless operations, reduced paper usage by 30%, and sourced eco-friendly products for campus facilities. To achieve this goal digital source were used in the office and class rooms to reduce the use of paper. Use of single plastics such as plastic carry bags, pen etc. were not encouraged in the campus. Use of paper pen/ink pen campaign were promoted actively among students, teaching and non-teaching staffs.
- Community Engagement: Community empowerment programmes such as waste and water management signature drive were conducted in the vicinity of the campus. Clean up drives were conducted in the different areas of the Panchayath with the help local people in order to raise the importance of waste management. In such events we collaborated with local people, elected members and other organisations to widen the activity profile of the campus.
- Plastic Bottle Reduction: Implemented a successful campaign to decrease the use of plastic bottles on campus, promoting sustainable alternatives such as reusable bottles and water dispensers. We also initiated bottle booths for exclusively collecting plastic bottles. Later we handed over these collected bottles to Haritha Karma Sena



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Members. This initiative aligns with our commitment to minimising plastic waste and fostering an environmentally conscious campus culture.

## YEAR 4: 2021-22

- **Monitoring and Reporting:** Established a systematic resource management, environmental impact assessment process, regularly published reports on campus sustainability achievements, and set targets for further improvement. As a result of this available resources and its use pattern were clearly documented. For example the use water and availability of water and energy sources. The collection of this baseline data helped to take management measures on proper time. In short seasonal use of campus resource use utilisation and availability surely helped to implement suitable conservation measures.
- **Renewable Energy Expansion:** Institute expanded the use of renewable energy sources, achieving a 30% reduction in campus carbon footprint. In order to achieve this solar energy sources were installed. Also the policies related to energy conservation were implemented more effectively. This directly helped to reduce the carbon emission of the campus.
- **LED Lights Expansion:** Further enhanced energy efficiency by installing more low-energy consumption LED lights, contributing to a 25% reduction in overall campus energy consumption.



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- Sustainable transport: To promote this footpaths installed in the campus enhancing pedestrian safety, and encouraging sustainable modes of transportation.
- Steps wise actions were taken to for the automation of electrical fittings, implementing water metering, IoT based energy efficiency practices were partially implemented.

## YEAR 5: 2022-23

- Energy Star Appliances: Upgraded campus facilities with 5-star and 4-star energy-efficient electric equipment, including televisions and air conditioners, aligning with the commitment to reduce energy consumption and environmental impact. This was implemented as a part of environmental policy of the institute.
- BLDC Fans Implementation: Incorporated energy-efficient BLDC fans, optimising air circulation in various campus facilities while minimising electricity usage.
- Environmentally relevant days were celebrated and community drives with the help of NSS and nature club members were conducted in the Panchayath.
- Innovative Initiatives: Launched innovative sustainability projects, engaged in research on green technologies, and established partnerships with industry leaders for continued advancements. To widen the possibilities with industrial sector memorandum of understanding was signed for environmental conservation.



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- Ongoing Education: Continued sustainability education programs, fostering a culture of environmental responsibility among students, staff, and the broader community. The resource sustainability aspects were introduced in curricular and co-curricular activities of the institute. The activities were conducted to educate both students and staffs about the importance of environmental ethics in our day to day life.

This Five-Year Action Taken Report outlines the progressive steps taken by Gems Arts and Science College towards creating a sustainable and environmentally conscious campus.



  
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