



ACS College of Engineering

Approved by AICTE New Delhi, Affiliated to VTU, Belagavi
(A Unit of RajaRajeswari Group of Institutions)

CET Code : E186 COMED-K : E003 PG CET : T918



7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste



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The Institution has taken up various initiatives to maintain an environment friendly campus. The campus is full of greenery and is kept clean and tidy. The gardens, lawns and plantations inside the campus is maintained by a dedicated group of caretakers, sweepers and housekeeping staff... The Institution implements effective waste management through waste segregation and recycling of the waste. In addition to this the Institution has organized many workshops on the implementation of these techniques effectively. Training programmes are conducted from time to time about the methodology of disposing the waste. It was stressed that we should avoid plastic items to the best possible capacity. The Students and faculties were also actively involved by knowing their perspective about the waste management techniques in the campus.

- 1. Solid waste management:** The Institution implements solid waste management by enforcing the waste segregation rules. Dustbins are placed in every classroom, laboratory, rest room, and mess at different locations in the campus. Sweepers are allotted to each floor who manages all the waste generated in the campus. All waste/garbage from college and hostel is segregated at source and disposed of in a proper manner. The wet waste from the hostels/ canteen is given away to bio fertilizer plants for making eco-friendly fertilizers. Wastes like newspapers and stationary is sold to proper recycling agencies/vendors. Through recycling the transport of large quantities of garbage to far-off dumps has been reduced. The institution has successfully completed and recently commissioned a BIO gas plant to handle 80 kg/day of solid waste. The Institution has organized Swach Bharat Mission. Under this banner the utility of recycling the solid waste has been elaborated. People from different aspects of life delivered their talks about the proper usage of waste. Moreover, the NSS volunteers have also demonstrated the proper procedure of disposing the waste. Unnatha Abhiyana Activities were conducted on solid waste management in Ramnagara District
- 2. Liquid waste management:** The Institution follows the systematic procedure for proper management and disposal of liquid waste. The wet waste from the college, hostels and canteen is given away to bio fertilizer plants for making eco-friendly fertilizers. A sewage treatment plant for the college is being conceived. This treated water is then used for the gardening and other purpose. Institution also conducts discussions with students to make them aware about the liquid waste management techniques.
 - [A] In order to treat the domestic and other waste waters, the sewage treatment plants (STPs - 2 no) have been installed and successfully operated within the premises. The STP capacities are 250 KLD and 300 KLD respectively to handle the waste waters generated from College building, Hospital, Hostels, Canteens and recreational areas such as gymnasium etc.
 - [B] Generally 250 KLD STP is attached to near girls hostels and club house. The waste waters emanating from the hostels, The waste water is first disinfected using bleaching disinfectants and then discharged into the under drainage system leading to STP.

- [C] The sewage generated from other buildings is directly discharged into the STP and is treated along with other waste waters.
- [D] The treatment scheme comprises of a biological treatment called ASP/SBR system wherein the aerobic bacteria stabilizes all the organic matter, neutralizes the microbial population.
- [E] The STPs have been performing smoothly and deliver effluents with BOD values below 10 mg/l. The aerobic treatment followed by disinfection results in microbe concentration below 100 units as stipulated in the consent. Likewise all other listed parameters are also complied with. Monthly analysis reports are regularly forwarded to the KSPCB.



Photo : Sewage Treatment Plant (250 KLD)



Photo: Sewage Treatment Plant



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Photo: Sewage Treatment Plant



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Photo: Sewage Treatment Plant of 300 KLD in operation

RECYCLE AND REUSE OF TREATED WASTE WATERS:

The institution installed two sewage treatment plants for the treatment of waste waters originating from the Hospital, college, hostels, staff quarters and canteen areas. Whereas 250 KLD STP primarily treats the waste waters generating from Medical college, Hospital and club areas; the sewage from the ACS College, hostels and staff quarters is treated in 300 KLD STP near cricket ground. Generally the STPs are operated below 80% capacity levels and depending upon semester breaks the influent fluctuations are accordingly smoothened. On an average 440 - 450 KLD of treated waste water is available for its reuse. Biologically treated waste water is disinfected using liquid chlorine prior to its pumping for the uses. As per KSPCB stipulations, the treated waste waters are reused within the campus as out lined in the following paragraphs.

In general the STPs are operated at not more than 80% of the designed capacity and at much lower capacity during vacations, lock down etc. The treated waste waters from STP 1 and 2 is utilized for the following activities:

- i) Gardening and maintaining greenery within the campus. (70 %)
- ii) For construction and curing activities within the campus. (20%)
- iii) Secondary flushing in toilets in the hostel buildings. (5%)
- iv) Dust suppression as and when required. (1%)
- v) Buses and other vehicles washing within the campus. (4%)

➤ **Treated water used for maintaining Grass Mat Cricket Ground:**

A cricket ground measuring as large as **14,500 sq m** is provided with grass mat that is maintained round the year on top priority. Since grass has small and shallow roots (as against large and deep roots of tall trees) the water demand is also high (Evaporation-transpiration) frequent watering is required to ensure very survival of the grass. A sprinkler system has been provided for this purpose. In general a total of **140 KL** is required on any non monsoon day.



Photo: Grass Cricket Stadium at ACSCE

➤ **Bus/Car Washing:**

The institute operates a fleet of 6 Buses and other vehicles. Additionally the students staying in the premises also use the treated water to wash their cars and two wheelers. Provision of **5 KLD** has been made for the purpose.



Photo: College Bus Fleet

➤ **Ongoing Construction Activities:**

For general maintenance works as well as other ongoing construction activities (Concreting and curing) in the premises also make use of treated water which is quite fluctuating in nature. Nevertheless a provision of **10-20 KLD** has been made.



Photo: Ongoing Construction Works

➤ **Kitchen Gardening:**

Few patches in the premises are used to grow vegetables (on Trial basis) which are often watered with treated water. The demand here could be approximated to **2 KLD** during non monsoon time.



Photo: Kitchen Gardening near Mess Area

➤ **Green Belt Development:**

A Green zone has been developed with short, medium and tall trees along with other horticultural development and vacant areas in the campus. This also requires regular watering for the survival. Through the hydrant systems network, the treated water is pumped from both the STPs and a total of **110 KLD** is utilized for the purpose.



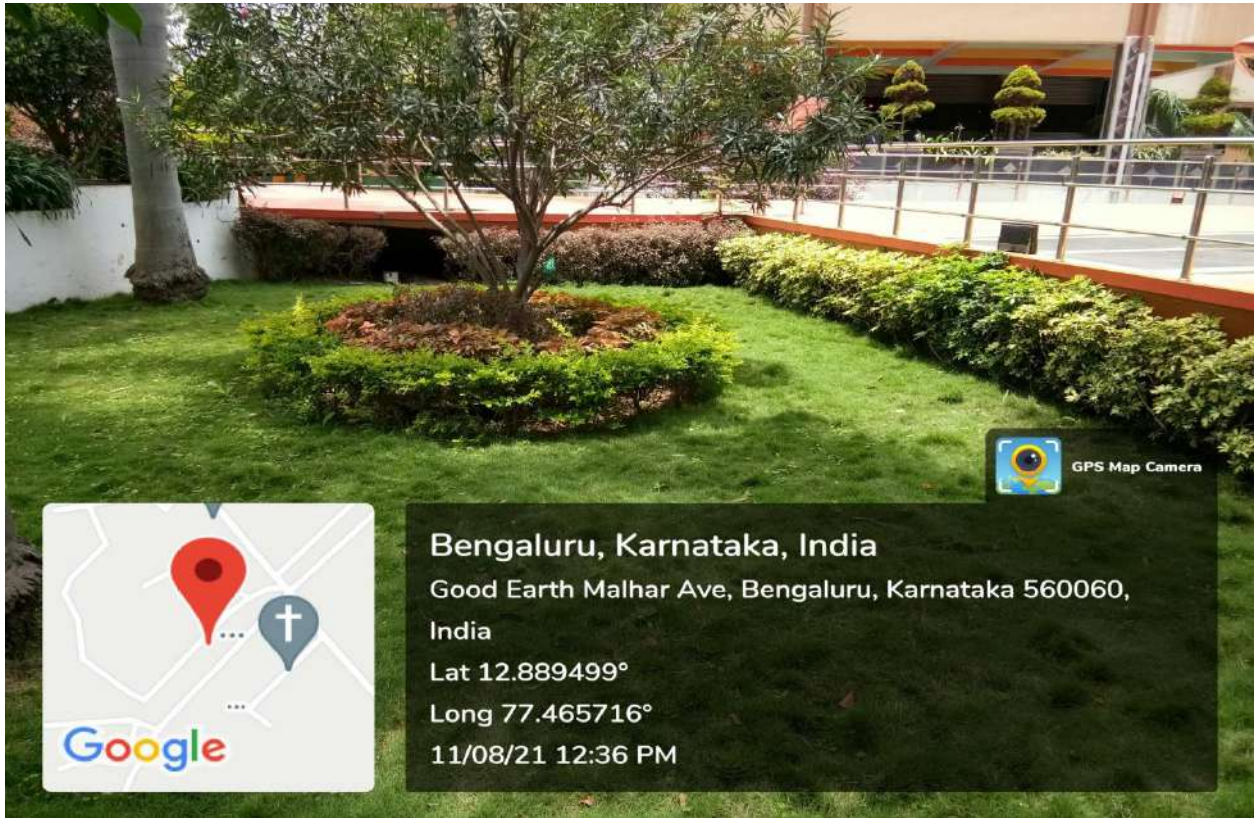


Photo: Green Belt Development at ACSCE

3. E-waste management:

The Institution has undertaken a number of E-waste Management initiatives with the objective of creating an eco-friendly environment in the campus. E-waste such as computers and its peripherals are upgraded regularly to continue usage and to avoid its wastage.



Photo: E- Waste Storage

4. Hazardous and Radioactive waste:

Live (Hazardous) waste discarded in to the environment after water treating from the treatment plant and from the institution no radioactive waste is not generated.



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