Waste Management

Ess.Doc.-19

AAA

COLLEGE OF ENGINEERING & TECHNOLOGY

(Accredited by NBA (CSE,EEE,ECE & MECH) and NAAC with 'A' Grade.
An ISO 21001: 2018 Certified Institution
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)
Amathur, Sivakasi-626 005

Implementation of Waste Management Systems

AAACET has a strong waste management system. Paper, plastic, food, and waste from the canteen, hostel kitchen etc., are segregated into biodegradable and non-biodegradable wastes.

Solid wastes are processed through a vermicomposting process and used as manure for the plants and trees in the campus. Recyclable wastes such as examination papers are collected and periodically sent for recycling. One-sided papers are re-used by the faculty/stafffor documentation. Non-biodegradable waste, such as metals and other scraps, is comparatively less on our campus.

The RO plant installed on the campus caters to drinking water needs. The sewage water treatment plant on campus has the capacity to process 20,000 liters/day. The treatment process is designed on the principle of activated sludge process with Ultrafiltration. Treated wastewater is used for gardening and other activities, and collected sludge is used as manure for plants and trees.

Bio-medical wastes such as sanitary napkins are disposed of through eco-friendly napkin incinerators. Usage of hazardous chemicals and radioactive materials is restricted inside the institute. UPS batteries are exchanged for new, and old batteries are recycled. Till to date, there is no e-waste generated on campus.

Solid waste management

Our college has a well-functioning waste management system where paper, plastic, food, and many other wastes are segregated into bio-degradable and non-biodegradable wastes. We also collect the waste from the canteen, kitchen, and other places, segregate it, and use it for the vermicomposting pit where manure is produced for the plants and trees on the campus.

Vermi Composting Unit

Biowaste from the campus, including weeds and shredded plant leaves, is collected along with food waste and dumped into the composting yard. The cow dung is then added where the earthworms feed on the biomass and excrete in digested form (vermicasts). This is termed vermiculture or "worm–forming". The vermicasts are rich in nitrates and minerals such as Potassium, phosphorus, magnesium, and calcium. The vermicomposting unit functions with the 'Pit method.'

The procedure of Vermicomposting inside the campus:

1. A Pit of size 10'x10'x7' was dug.
2. Walls made of paver blocks were cast around the pit.
3. Biomass was collected from the campus.
4. A fine Bed was prepared by adding decomposed cow dung, dried leaves and other biodegradable waste collected from the hostel's kitchen.
5. Biowaste and partially decomposed cow dung were continually added up to ½ ft.
6. Earthworm species were released over the mixture with dry straw.
7. Water was sprinkled thrice a day to maintain moisture content.
8. The compost was checked frequently for overheating, and moisture was maintained.
9. Lose soil–like material was obtained after 3 to 4 weeks.
10. Thus, the obtained material was dried in the sun.
11. Thus, dried vermicasts serve as manure.

Vermicomposting

Collect Organic Waste

Add Cow dung

Add Earthworm

Sprinkle Water

VermiComposting

Manure

Liquid waste management

Sewage systems are in practice to protect our environment from hazardous wastewater. Weconvey the liquid waste to the wastewater treatment plant to ensure the environment is free from health-related hazards. The capacity of the treatment plant is 20,000 liters/ day.

A sewage treatment plant is installed to collect all wastewater generated in the college. It also ensures that the treated water is used for gardening and other activities. The treatment Process/system is designed on the activated Sludge process with Ultrafiltration, which provides the aerobic decomposition of organic matter in the presence of active microbial growthin the aeration tank.

RO Treatment Plant:

The Reverse Osmosis Plant installed on the college campus caters to the drinking water needs of students, faculty, supporting staff, and visitors. The raw water with an average Total Dissolved Solids [TDS] of 750-1000 ppm is treated to reduce TDS content to less than 100 ppm.

Biomedical waste management

The Institution has eco-friendly napkin incinerators used to dispose of bio-medical wastes such as sanitary napkins.

E-waste management

Since the college started in 2013, no major electronic waste disposal has been reported.

Waste recycling system

AAACET has a robust waste management system. Paper, plastic, food, and waste from the canteen, hostel kitchen, etc., are segregated into biodegradable and non-biodegradable wastes.

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