

# Report on Degradable & Non-Degradable Waste Management



**Swami Vivekanand Subharti University, Meerut**

(Established under U.P. Govt. Act no. 29 of 2008 and approved under section 2(f) of UGC Act 1956)

# Report on

## Degradable and Non-degradable Waste Management

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Swami Vivekanand Subharti University has implemented a Waste Management Mechanism to safeguard the environment. through Waste Management Mechanism for which University is following the rules and regulations of “Government of India” related to Waste Management since before 2015. Consequently, the Swachh Bharat Abhiyaan rules are being followed by Clean & Green Environment University in light of its national goal. The university actively participates in outreach and extension initiatives pertaining to environmental consciousness among both urban and rural areas, including contributions from academic members and students. The university has established a waste management mechanism by carrying out important actions like:

1. Management of Solid Waste
2. Liquid Waste Management
3. Bio-medical Waste Management
4. E-Waste Management
5. Waste Recycle System
6. Hazardous Chemical Waste Management

### 1. Solid Waste Management

Solid waste management at Swami Vivekanand Subharti University is integral to fostering a sustainable and healthy campus environment. Recognizing the growing challenges posed by waste generation, the university has implemented comprehensive strategies to address these issues effectively. The university emphasizes the importance of waste segregation at the source, The team in charge of housekeeping at Swami Vivekanand Subharti University is responsible for gathering solid garbage from staff

residences/flats, hostels, staff rooms, colleges, the hospital, and canteens/messes and placing it in appropriate containers. We further separate solid waste garbage into biodegradable and non-biodegradable categories. Peels from fruits and vegetables, leftover food, etc. are examples of biodegradable garbage. Glass bottles, metals, and plastic are examples of non-biodegradable garbage. With the aid of NADEP and pit composting processes, the majority of biodegradable waste is transformed into bio compost. The University has set up three biogas plants to enhance sustainable waste management and energy production. These plants convert organic waste from mess facilities into biogas, which serves as a resource for cooking and heating, thus reducing reliance on traditional fuel sources.

Swami Vivekanand Subharti University is authorized from the office of City Health Officer, Nagar Nigam, and Meerut to dump segregated garbage into "dumping ground" of Gawandi Village, Meerut.

*Note: (In reference of Solid Waste Management, the pictures have been attached within the Geotagged Document File)*

## **2. Liquid Waste Management**

Liquid waste management is a process that entails the collection of hazardous liquids and their appropriate disposal to prevent contamination from entering rivers. A protocol and procedures have been established by the university to safeguard the environment from the discharge of liquid waste water from university campuses' canteens and mezzanines, staff rooms, residence halls, colleges, and hospitals.

The university has constructed a large sewage treatment plant (STP) with a capacity of 1,100 KLDS to treat sewage water. Additionally, the university has installed two effluent treatment plants, each with a capacity of 10 KLD and 30 KLD, to treat effluent from laboratories and other sources.

The sewage treatment process comprises many phases to eliminate impurities from wastewater, rendering it suitable for disposal or reuse. Initially, in the primary treatment phase, screening eliminates substantial debris, such as branches, foliage, plastic, and other sizable items. In the secondary treatment, microorganisms break down dissolved and suspended organic matter in aeration tanks. Air is supplied to encourage bacterial growth, which digests the organic material. The mixture then moves to secondary

clarifiers, where the solids are allowed to settle, and the treated water is further filtered. In the tertiary treatment, additional purification steps are applied, such as advanced filtration, chemical treatments, or disinfection using disinfectant to remove any remaining contaminants, including pathogens. Finally, the treated water is discharged for irrigation and other purpose through pipeline.

*Note: (In reference of Liquid Waste Management, the pictures have been attached within the Geotagged Document File)*

### **3. Biomedical Waste Management**

Biomedical waste or hospital waste is kind of waste which is containing infectious (or potentially infectious) materials. Swami Vivekanand Subharti University follows the bio-medical waste segregation rules 2016 which is amended in the year 2018 for infectious waste. Clinical waste falls into the infectious "INFECTIOUS" labeled bags which are segregated into Yellow, Blue and Red category for its complete disposal. Chhatrapati Shivaji Subharti Hospital collects (Non-chlorinated bags) biomedical waste within every 48 hrs. later it is transferred to the synergy.

Chhatrapati Shivaji Subharti Hospital and Synergy Waste Management (P) Ltd. has signed an MoU for the purpose of collecting Biomedical Waste material and it is valid for 03 years from 01.01.2022. *(Copy of MoU is attached in E-copies of Biomedical Waste Management document file)*

*(Copy of installation report along with PO is attached in E-copies of Biomedical Waste Management document file.)*

The University has an authorization letter from Uttar Pradesh Pollution Control Board for maintaining the facility like Generation, Collection, Reception, Treatment, Storage, Transport and Disposal of Biomedical waste which is valid up to 05 years from 19.06.2024.

*(Copy of grant letter is attached in E-copies of Biomedical Waste Management document file.)*

Swami Vivekanand Subharti University, Chhatrapati Shivaji Subharti Hospital (CSSH) has taken the initiative towards the adoption of environment protection and installed two Effluent Treatment Plant (ETP) of 10 KLD and 30 KLD in University to purify the waste water and remove any toxic and non-

toxic materials or chemicals. Uttar Pradesh Pollution Control Board has issued consent orders to Swami Vivekanand Subharti University in reference of water and air pollution which are valid up to 31.12.2026.

*(Copy of grant letter is attached in E-copies of Biomedical Waste Management document file.)*

*Note: (In reference of Biomedical Waste Management, the pictures have been attached within the Geo tagged Document File)*

#### **4. E-Waste Management**

Electronic waste or e-waste discarded electrical or electronic gadgets are referred to as electronic garbage, or e-waste. Out-dated electronics such as CPUs, monitors, keyboards, mice, and computers that are no longer in use have been placed in a hardware laboratory at Swami Vivekanand Subharti University and are periodically disposed of by recognised vendors to dispose of E-waste materials in an environmentally safe manner and in accordance with current regulations. *(Copy of certificate attached in document file)*

*Note: (In reference of E-Waste Management, the pictures have been attached within the Geo tagged Document File)*

#### **5. Waste Recycle System**

Recycling is the process of making new materials and items out of garbage. A common application of this idea is to recovery of energy from waste materials The university's big vermicomposting facility, NADEP compost, and pit composting allow biodegradable waste composting. Which have made composting biodegradable waste materials possible.

All organic waste generated in universities, e.g., waste from messes, canteens, dry leaves, and also cow dung generated in Goushala, is converted into organic manure. The University is using all the organic fertilizers for botanical and an herb garden, the process of naturally generated recycled manure is employed. The Department of Horticulture of the University oversees this process.

*Note: (In reference of Waste Recycle System, the pictures have been attached within the Geo tagged Document File.)*

## **6. Hazardous Chemical and Radioactive Waste Management**

The treatment of hazardous chemical and radioactive waste at Swami Vivekanand Subharti University is crucial for ensuring safety and environmental protection. The university produces waste primarily through labs and research buildings, demanding stringent procedures for management and disposal. This organisation complies follow all the norms by developing a comprehensive waste management system to tackle these difficulties. This include appropriate labelling, segregation, and storage of hazardous products to prevent accidents and exposure. Partnerships with specialised waste disposal firms guarantee the safe treatment and disposal of hazardous and radioactive wastes, hence reducing environmental effect. The university is dedicated to cultivating a culture of safety and accountability, providing students with the information and skills essential for the proper management of hazardous materials in their future professions. Swami Vivekanand Subharti University prioritises the handling of hazardous chemicals and radioactive waste, hence protecting public health and promoting environmental sustainability.

*Note: (In reference of Hazardous Chemical and Radioactive Waste Management, the pictures have been attached within the Geo tagged Document File)*

# Jai Hind



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