

# Waste Management Policy



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# **Waste Management Policy**

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## **INTRODUCTION**

University of Rajasthan established in 1947 is committed to promotion of excellence in education and research inculcating independent critical thought and scientific temper. It has been transforming lives through pursuit of excellence in teaching, learning and lifelong learning from last 75 years.

University of Rajasthan realizes the importance of sustainable and holistic waste management. Waste management directly influences human health outcomes, as improper waste disposal can lead to contamination of air, water, and soil, resulting in serious health hazards. By prioritizing scientific waste management, the University of Rajasthan wishes to safeguard the well-being of its students, teaching and non-teaching employees, visitors and the surrounding communities, ensuring a healthy and safe environment for all.

Waste management plays an important role in the field of environment and sustainability. It is a generic term given to activities associated to waste including generation, segregation, storage, handling and transportation from point of source to the place of disposal. Hence, planning of the waste management for all kinds of generated waste is a huge task.

University of Rajasthan has a duty to ensure that all the campus wastes are disposed of responsibly by using proper waste segregation mechanism at the source and if possible, converting it into value added environment friendly product.

The University shall encourage the student community as well as other stakeholders to understand the importance of environmental sustainability through scientific waste management. Thus, initiation of waste management policy and accompanying strategies were undertaken in University of Rajasthan.

## **PURPOSE**

Due to the diverse nature of activities undertaken by University of Rajasthan, a wide variety of waste is produced ranging from general wastes and recyclable materials to hazardous wastes. The University has a duty to ensure that all this waste is disposed of responsibly, through smart and efficient waste management practices. University of Rajasthan is dedicated towards enabling a circular economy through the principles of refuse, recover, reduce, reuse, and recycle being an environment-friendly organization.

The policies and initiatives for the conservation of energy, environment and green campus activities will develop a positive attitude towards nature and will protect our resources. Being the future nation builders of the society, the students and teachers are expected to disseminate the same to the society through various environmental protection actions.

### **POLICY STATEMENT**

University of Rajasthan will adopt the principles of the “best practicable environmental option” in the delivery of its waste management services. All teaching and non-teaching staff, students, guests, visitors and anyone else making use of the premises will be required to comply with this policy to ensure compliance with all waste legislations. Any solid waste generated in the campus shall be managed and handled in accordance with the compliance criteria and the procedure laid down in Solid Wastes Management Rules, 2016, published under the notification in the Ministry of Environment, Forest and Climate Change, Government of India.

It will be helpful to educate students, teachers and community to create and enhance awareness about the environment protection practices, energy conservation strategies and conservation of ecological systems and resources within and outside the campus. From time-to-time awareness campaign will be organized by units of University of Rajasthan for the same.

University of Rajasthan along with all its associates and any third parties acting on behalf of University, including suppliers, partners, contractors, vendors, and affiliates are responsible for supporting and complying with this policy. The Co-Ordinator (IQAC) shall be accountable for communicating the progress of the implementation of this policy with the Pollution Control Board along with associates, customers, suppliers, and partners of University of Rajasthan.

### **OBJECTIVES OF THE POLICY**

The objectives of the policy is to make easier to carry out the proper management of waste (hazardous and non-hazardous both), including their minimization and environmentally sound management.

- ✓ To ensure that waste management practices align with current and future legislative standards.

- ✓ To provide clearly defined guidelines for identifying and coordinating activities related to waste management in University of Rajasthan
- ✓ To promote environmental awareness to encourage waste minimization, reuse and recycling efforts among the university community.
  
- ✓ To ensure safe handling and storage of waste on the campus to prevent environmental and health risks.
- ✓ To maintain the campus with minimal plastic usage to reduce environmental impact and promote sustainability.
- ✓ To promote a holistic approach to waste management within the campus emphasizing the interconnectedness of waste reduction, reuse, recycling, and environmental sustainability.
- ✓ To promote environmental awareness among teachers, staff, students, residents and other stakeholders about waste reduction, reuse, and recycling initiatives.

## **ORGANIZATION AND MANAGEMENT**

The responsibilities and organizational arrangements for effective implementation of Waste Management Policy with the Advisory Board which would consist of following:

- i. Vice-Chancellor- Chairperson
- ii. Co-Ordinator (IQAC)- Member Secretary
- iii. Dean Faculty of Science
- iv. Heads and Directors  
(Indira Gandhi Centre for HEEPS, Physics and Chemistry Departments)
- v. University Executive Engineer
- vi. Two outside experts (to be nominated by the Vice-Chancellor)

**Frequency of Meeting:** The committee shall meet at-least one time in a year or as and when required.

**Quorum:** Two-third members will constitute the quorum. In case the quorum is not attained for the meeting, the meeting shall stand adjourned to the declaration of next date.

**Term:** The tenure of the members shall be three years.

**Functions of Advisory Board:**

- To set 'Environmental Performance Indicators' for management of waste and report annual progress.
- To monitor and audit the waste management system and to ensure safety along with legal compliance.
- To ensure that all contractors comply with the University's Waste Management Policy.
- To make provisions for training for all personnel who are responsible for waste management.

The Member Secretary in consultation with the Chairman shall prepare and circulate the agenda of the meeting well in advance. The Member Secretary shall maintain the minutes of the meeting and action taken report.

**University Executive Engineer will be responsible for:**

- Overseeing the day-to-day transportation of general waste and recycling services.
- Monitoring the performance of the university contractor according to the agreement.
- Operational monitoring of waste management systems across the campus.
- Compiling and keeping a record of waste transfer data and recycling collections.

**Heads of Department/Directors will be responsible for:**

- Ensuring that no hazardous waste is disposed of through the general or waste recycling streams.
- Nominating a faculty member within the department to coordinate waste disposal for general, hazardous or any laboratory wastes.
- Informing the Member Secretary, about the nominated faculty member. The tenure of the nominated faculty member will be two years.

**Staff/Supervisor (contractual) will be responsible for:**

- Disposing of waste responsibly (at both office and residence), through the appropriate waste disposal system (segregation of waste), in accordance with University policy and procedures.
- Reporting any problems with waste collection system to University Executive Engineer.

**Students will be responsible for:**

- Disposing of waste responsibly, through the appropriate waste disposal system, in accordance with University policy and procedures.
- Reporting any problems related department/laboratory waste or waste collection procedure to the Head of Department/ Director.

## ACTION PLAN AND WASTE MANAGEMENT PRACTICES

At the University of Rajasthan, Jaipur, an innovative and comprehensive action plan is in place for waste management and disposal, reflecting the institution's commitment to environmental sustainability and responsible resource utilization. The strategies employed are not only effective but also creative, ensuring minimal environmental impact and maximum resource recovery.

University of Rajasthan manages all types of wastes in accordance with the current applicable procedures including government regulations/legislations. University promotes to utilize the concept of circularity with the aim to eliminate waste and endorses to continually refuse, reuse, reduce, share, repair, refurbish, and recycle resources in a closed-loop system. This concept helps to reduce waste and minimize pollution as well as carbon emissions.



This is applied at every department to lessen all types of waste e.g. office waste (paper and cardboards, cotton, plastic), organic waste (grass/leaves from garden, food waste from hostels and canteen), and hazardous waste (chemicals and electronic waste).

**Collection and Segregation of Waste:** Separate bins (blue for dry waste and green for wet waste) and dumpsters are placed throughout the campus to segregate waste for efficient recycling and disposal. The segregation of waste is the key strategy for waste management. Segregation means to separate the wastes into the groups of solid (organic, inorganic, recyclables) and hazardous wastes. Hazardous and e-waste are collected separately to ensure safe handling.



## **STRATEGIES OF DISPOSAL**

**Disposal of Domestic and Kitchen Waste:** The domestic and kitchen waste will be collected from all the hostels, staff residence, lawns along with other bio-waste, and mixed with cow dung for production of vermicompost/compost in the university campus. The produced vermicompost will be utilized inside the university campus.





**Disposal of Biomedical Waste:** Any non-biodegradable solid waste which can't be used to produce organic manure like bio-medical wastes (dressing, bandages, plaster cast, material contaminated with blood, sanitary napkins) will be converted into ash in an incinerator.

**Disposal in Landfill:** The University maintains a landfill in the campus for various solid non-hazardous wastes which are not suitable for either vermicompost preparation or incineration. This waste will be dumped in the landfill in a systemic manner.

**Disposal of Plastic Waste and other disposable items:** Plastic and other disposable items will be collected from the campus and sold to recycling agencies.

**Liquid Waste Management:** Waste water from canteen and buildings is channeled into drains and then into small streams. The wastewater flowing down the drains and streams water is collected in small oxidation ponds where it is naturally oxygenated and is used for gardening in the campus.

**Hazardous Chemical Waste Management:** The university has a system for management of chemical wastewater in which the acidic and alkaline wastewater is diluted and neutralized before discharging in the drains. The solvents used in the laboratories are reused after distillation to minimize the use of solvents. This wastewater coming from the laboratories then is made to pass successively through a wastewater treatment system that consists of three chambers i.e., Chamber-I (Gravel), Chamber-II (Sand) and Chamber-III (Charcoal). The water from the Chamber-III is collected in a soak pit and is free from hazardous chemicals. The three chambers are replenished with new materials after a period of six months.

**Biomedical Waste Management:** Management and disposal of such waste will be governed by Bio-Medical Waste (Management and Handling) Rules, 1998, MoEFCC, Government of India.

**Radioactive Waste Management:** Activities related to utilization of nuclear material and use of radioactive sources will be carried out in accordance with the relevant provisions of the Atomic Energy Act, 1962.

**Electronic Waste Management:** Electronic waste generated from laboratories, academic and administrative offices like non-functional lab equipment, desktops, laptops, printers, charging and network cables, Wi-Fi devices, UPS, biometric machine, etc. are collected centrally and then segregated. The used batteries are exchanged with new purchased batteries. The collected e-waste is then disposed of through government approved agencies.

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## **GLOSSARY**

### **Waste**

According to United Nations Statistics Division (UNSD), waste are materials that are not prime products for which the generator has no further use for purposes of production, transformation or consumption.

### **Hazardous Waste**

Waste materials that pose severe threats to living beings or the environment due to their toxic, flammable, corrosive, or reactive nature if improperly disposed of e.g. chemicals from laboratories (acids, alkaline solutions, solvents) fluorescent tubes, battery waste, oils paint, computer monitors, radioactive substances etc.

### **Non-Hazardous Waste**

Waste that does not pose an immediate threat to living beings or the environment, but it still cannot be dumped into a trash because it could pose the risks e.g. general office waste (paper, plastics, packaging materials, cardboard) glass, metals, and non-toxic substances etc.

### **General waste**

General waste includes office wastes for examples paper, plastics, glass, liquids and organics.

### **Chemical Waste**

Chemical waste are any solids, liquids or gases containing flammable solvents, leachate, toxic materials, corrosive, reactive, explosive and water-reactive materials. These materials may be toxic, mutagenic and carcinogenic for living beings and are derived from chemical processes, laboratories, and research activities.

### **Biomedical Waste**

Waste generated from medical activities, including hospitals, clinics, and research facilities. This waste category encompasses sharps, infectious materials, pharmaceuticals, and anatomical waste produced at the university's medical and research departments.

### **Biodegradable Waste**

Any organic wastes that can be degraded naturally through microbial action into simpler stable compound without contributing to pollution. For example, food scraps, yard waste, and organic residues generated from canteens, gardens, kitchen etc.

### **Non-biodegradable Waste**

Any wastes that cannot be decomposed or broken down by microorganisms and other living organisms and cause pollution.

### **Electronic wastes (e-Waste)**

Electronic waste is any electrical or electronic equipment that has been discarded. e-waste includes all kinds of electronic wastes like CDs and DVDs, cell phones and chargers, used ink jet cartridges, tapes, computers, printers, TVs, VCRs, stereos, copiers fax machines, laboratory equipment etc.

### **Radioactive waste**

Radioactive waste is generated as a by-product of producing or using radioactive materials by industries such as mining, nuclear power generation, defense, medicine, and certain types of scientific research.

### **Recycling**

Recycling is the process of collecting and processing of waste materials turning them into new products e.g. organic waste, wood, paper, glass, cardboard, plastic and scrap metal etc.