

## Waste Management Policy of Osmania University

### Preface

As a venerable institution with a rich legacy in academic excellence, Osmania University is deeply committed to fostering an environment that extends beyond the realms of education to encompass responsible citizenship and environmental stewardship. In this spirit, we are pleased to present the Osmania University Waste Management Policy.

In recent years, the global discourse on environmental sustainability has gained unprecedented momentum, and educational institutions play a pivotal role in shaping a future where responsible practices harmonize with academic pursuits. Recognizing this imperative, Osmania University takes a bold step forward with the formulation of a comprehensive Waste Management Policy, aligning our commitment to excellence with a dedication to the well-being of our community and the planet we share.

The purpose of this policy is twofold: to strategically manage waste generated across our diverse campus and to instil a culture of sustainability that resonates with our students, faculty, and staff. Our approach is rooted in a proactive stance toward waste reduction, recycling, and environmentally responsible disposal methods. By delineating clear guidelines, targets, and responsibilities, we aim to create a framework that not only meets regulatory standards but also fosters a holistic understanding of waste management within the university community.

This policy emphasizes the importance of education and awareness in cultivating a sustainable mind set. It is our belief that true change begins with informed individuals who appreciate the impact of their actions. To this end, we will implement educational programs that empower our community to contribute actively to waste reduction and recycling initiatives. Through these efforts, we envision Osmania University becoming a beacon of environmental responsibility, inspiring positive change within and beyond our campus boundaries.

As we embark on this journey towards a cleaner and greener future, we extend our gratitude to all stakeholders—students, faculty, staff, and administrators—for their collaboration, understanding, and commitment to the principles outlined in this Waste Management Policy. Together, let us forge a path that aligns with our institutional values, fostering a legacy of sustainability for generations to come.

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<b>Purpose of this Policy</b>		
Osmania University's Waste Management Policy aims to minimize waste, promote sustainable practices, and create a clean campus environment through targeted guidelines, responsible disposal, and educational initiatives.		

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## 1. Preamble

In pursuit of a harmonious intersection between academic excellence, environmental responsibility, and community well-being, Osmania University introduces its Waste Management Policy. As an institution with a legacy of commitment to excellence, our vision extends beyond the traditional boundaries of academia to embrace a holistic ethos of sustainability.

The preamble to this policy serves as a declaration of our institutional dedication in shaping a future where responsible practices seamlessly integrate with educational pursuits. Recognizing the global urgency of environmental sustainability, Osmania University underscores its responsibility to lead by example and contribute meaningfully to a more sustainable planet.

This preamble encapsulates the spirit of our Waste Management Policy, elucidating its purpose as a strategic framework designed to not only manage waste efficiently across our campus but also to cultivate a culture of environmental consciousness within our community. By providing clear guidelines, setting targets, and assigning responsibilities, we aim to foster a comprehensive approach that goes beyond compliance to inspire a collective commitment to sustainable waste management practices.

At the core of this policy lies a commitment to education and awareness - an acknowledgment that true transformation stems from an informed and engaged community. Through tailored educational programs, we aspire to empower our students, faculty, and staff with the knowledge and understanding needed to actively participate in waste reduction and recycling initiatives.

As we embark on this transformative journey, we express our gratitude to all stakeholders for their collaboration, understanding, and shared commitment. This policy serves as a call to action, inviting each member of the Osmania University community to contribute to the realization of a cleaner, greener, and more sustainable future.

## Terms and Definitions

**Solid Waste:** Any discarded or abandoned material in a solid or semi-solid state, including but not limited to household waste, industrial waste, commercial waste, and construction debris.

**Recyclable Waste:** Waste materials that can be collected, processed, and transformed into new products, thus reducing the need for raw materials and minimizing environmental impact.

**Non-Recyclable Waste:** Waste materials that are not suitable for the recycling process and must be disposed of through methods such as landfilling or incineration.

**Waste Reduction:** The systematic effort to minimize the amount of waste generated through practices such as source reduction, reuse, and recycling.

**Waste Management:** The organized and environmentally responsible collection, transportation, processing, and disposal of waste, including the implementation of recycling and recovery programs.

**Waste Segregation:** The process of separating different types of waste materials at the source for efficient recycling and proper disposal.

**Composting:** The biological decomposition of organic waste, such as food scraps and yard waste, into a nutrient-rich soil conditioner through the action of microorganisms.

**Electronic Waste (e-Waste):** Discarded electronic devices or components, including computers, smartphones, and appliances, that require special handling due to the presence of hazardous materials.

**Construction and Demolition Waste:** Waste generated from construction, renovation, or demolition activities, including materials like concrete, wood, and metal.

**Single-Use Plastics:** Disposable plastic items designed for a short lifespan, often used once and then discarded, contributing to environmental pollution.

**Hazardous Waste:** Waste that poses a substantial or potential threat to public health or the environment due to its chemical, biological, or physical characteristics.

**Standard Operating Procedures (SOPs):** Established procedures and guidelines that define the correct methods for handling, storing, and

disposing of waste materials to ensure safety and compliance with regulations.

**Waste-to-Energy Technologies:** Technologies that convert waste materials into usable energy, such as biogas or electricity, through processes like incineration or anaerobic digestion.

**Performance Indicators:** Quantifiable measures used to assess the effectiveness and efficiency of waste management programs, often including metrics such as waste diversion rates and cost analysis.

**Waste Management Audits:** Systematic examinations and evaluations of waste generation and management practices to identify areas for improvement and ensure compliance with established policies.

**Scope:** This policy is applicable to all activities and operations conducted by Osmania University and encompasses all waste generated on university-owned properties, including administrative offices, academic buildings, teaching and research facilities, hostels, kitchens, messes, canteens, staff quarters, gardens, and sports facilities.

**Policy Statement:** Osmania University is dedicated to minimizing waste generation and promoting sustainable waste management practices. The university will achieve this through:

1. **Waste Reduction:** Identifying types and quantities of wastes, determining sources of waste generation, and identifying opportunities for reduction, reuse and recycling, through:
  - a. **Composting:** Establishing composting facilities for processing food waste and other organic materials.
  - b. **Electronic Waste:** Properly managing electronic waste in accordance with the E-Waste Management Policy of Osmania University - 2022.
  - c. **Construction and Demolition Waste:** Implementing waste management programs for construction and demolition waste, prioritizing reuse and recycling.
  - d. **Single-Use Plastics:** Eliminating or reducing the use of single-use plastics on campus.

- e. **Hazardous Waste Management:** Properly managing hazardous waste, implementing Standard Operating Procedures (SOPs) for hazardous materials.

## 2. Waste Management Strategy:

Osmania University is dedicated to managing waste in an environmentally responsible manner, adhering to all relevant laws and regulations. The university will execute comprehensive waste management programs, emphasizing prioritization of reuse and recycling while actively working to minimize landfill waste. This will be achieved through implementing the following actions:

- a. **Establish Waste Reduction Targets:** Define specific targets for waste reduction, providing a roadmap for minimizing the overall volume of waste generated.
- b. **Implement Waste Segregation and Collection Procedures:** Introduce effective waste segregation and collection procedures with clear signage and instructions, ensuring proper separation of different waste types.
- c. **Identify Appropriate Waste Treatment and Disposal Options:** Explore and determine environmentally sound treatment and disposal methods for different types of waste, considering sustainable options beyond conventional landfilling.
- d. **Assign Responsibilities to Administrative Officers:** Delegate specific responsibilities for waste management tasks to administrative officers within respective departments and offices, fostering a distributed and accountable approach.
- e. **Constitute Waste Management Committees:** Establish 'Waste Management Committees' at various levels, including the university, colleges, departments, research centres, directorates, etc., to facilitate coordinated efforts and communication.

## 3. Waste Management Goals and Objectives:

- a. **Minimize Waste Generation:** Reduce university-wide waste generation by 20% within three years through source reduction, efficient consumption practices, and increased awareness.
- b. **Enhance Recycling Rates:** Increase the university's recycling rate to 50% by implementing targeted programs to encourage recycling behavior, improving infrastructure, and expanding the range of recyclable materials.
- c. **Optimize Waste Segregation Practices:** Improve waste segregation at the source by 30% through the implementation of clear signage, educational campaigns, and continuous monitoring, ensuring proper separation of recyclable, non-recyclable, and hazardous waste.
- d. **Reduce Landfill Waste:** Strive to minimize the amount of waste sent to landfills by 25% over the next five years by prioritizing waste-to-energy technologies, composting, and exploring alternative disposal options.
- e. **Educate and Engage the University Community:** Enhance waste management awareness among students, faculty and staff, achieving a 15% improvement in understanding and participation through educational programs, workshops, and communication initiatives.
- f. **Establish Sustainable Partnerships:** Forge sustainable partnerships with local waste management companies and suppliers, ensuring responsible waste disposal, promoting recycling practices, and collaborating on innovative solutions.
- g. **Implement Efficient Waste Management Infrastructure:** Upgrade waste management infrastructure by implementing technology-driven solutions and optimizing collection and disposal processes to improve overall efficiency and effectiveness.
- h. **Foster a Culture of Responsibility:** Cultivate a sense of responsibility and ownership for waste management among all stakeholders, achieving a 20% reduction in improper disposal practices through continuous awareness campaigns and community engagement.
- i. **Monitor and Evaluate Continuously:** Establish a robust monitoring and evaluation framework to regularly assess the



effectiveness of waste management initiatives, adjusting strategies as needed to align with evolving sustainability goals.

4. **Education and Awareness Initiatives:** Osmania University is dedicated to enhancing awareness and understanding of waste management principles among its stakeholders. To achieve this, the university will implement educational programs for students, faculty, and staff with a focus on mind full waste creation, promoting waste reduction, encouraging the use of reusable/biodegradable items, and discouraging the use of disposable items. Additionally, Osmania University will establish effective communication channels with relevant government bodies, NGOs, and other agencies engaged in waste management activities. This collaborative effort aims to foster active participation in waste reduction and recycling programs. The university is also committed to forming partnerships with local waste management companies to ensure proper disposal of non-recyclable waste. In line with this commitment, Osmania University will engage in partnerships with suppliers that collect back the reusable and recyclable materials, working collaboratively with its waste management service providers to promote sustainable practices and encourage waste reduction and recycling. Furthermore, the university will explore investments in innovative waste-to-energy technologies, such as biogas plants, to align its waste management practices with environmentally friendly and sustainable solutions.
5. **Performance Evaluation:** Osmania University is committed to gauging the effectiveness of its waste management programs and identifying avenues for improvement. This involves the establishment of performance indicators through the following measures:
- a. Regularly monitor waste generation and diversion rates.
  - b. Review waste management costs, identifying opportunities for cost savings.
  - c. Conduct periodic audits to assess the overall effectiveness of waste management practices.

Through these measures, the university aims to ensure ongoing optimization and success in its waste management initiatives through following performance indicators:

- i. **Waste Diversion Rate:** Achieve a waste diversion rate of at least 50% by next three years, measured as the percentage of total waste diverted from landfills through recycling and other sustainable methods.
- ii. **Recycling Rate:** Attain a recycling rate of 40% by next three years calculated as the percentage of recyclable materials successfully collected and processed.
- iii. **Waste Generation per Capita:** Target a reduction of 10% in waste generation per capita by next three years comparing the average waste generated per person to a baseline measurement.
- iv. **Waste Management Cost per Ton:** Strive to reduce the waste management cost per ton by 15% by next three years calculated by dividing the total cost of waste management by the total weight of waste processed.
- v. **Composting Efficiency:** Achieve a composting efficiency of 70% by next three years measured as the percentage of organic waste successfully converted into compost.
- vi. **Electronic Waste Recycling Rate:** Aim for an electronic waste recycling rate of 60% by next three years calculated as the percentage of electronic waste collected and recycled.
- vii. **Reduction in Single-Use Plastics:** Implement a 100% reduction in the use of single-use plastics on campus by next three years comparing quantities used before and after policy implementation.
- viii. **Hazardous Waste Compliance:** Maintain a 95% compliance rate with hazardous waste management SOPs and legal requirements through regular audits and assessments.
- ix. **Education and Awareness Impact:** Evaluate a 50% positive change in waste management behavior and practices among the campus community after the implementation of educational programs.
- x. **Energy Recovery from Waste:** Increase the contribution of energy recovered from waste by 25% by next three years through enhanced waste-to-energy technologies.

- xi. **Waste Management Audits Findings:** Implement 80% of recommendations identified through waste management audits within six months of the audit date.
- xii. **Percentage of Landfilled Waste:** Decrease the percentage of waste sent to landfills to 20% or less by next three years compared to the total waste generated.

## 6. Continuous Enhancement of Waste Management Practices:

Osmania University is committed to an ongoing process of assessment and refinement in its waste management endeavours. This dedication involves the perpetual evaluation and improvement of waste management programs. The university will actively integrate emerging technologies and industry best practices as integral components of its sustainability initiatives. By fostering a culture of adaptability and constant improvement, Osmania University aims to stay at the forefront of effective and environmentally sound waste management practices.

## 7. Waste Management Audit Procedures:

Osmania University is committed to maintaining a thorough understanding of its waste composition, volume, and identifying opportunities for improvement through regular Waste Management Audits. The procedures for these audits include:

- a. **Data Collection:** Gather comprehensive data on the types and quantities of waste generated across various university facilities, including administrative offices, academic buildings, hostels, kitchens, and recreational areas.
- b. **Waste Composition Analysis:** Conduct detailed assessments to analyse the composition of the waste, distinguishing between recyclable, non-recyclable, hazardous, and organic materials.
- c. **Volume Measurement:** Quantify the volume of waste generated, utilizing standardized measurement units, to assess the overall scale of waste production.

- d. **Auditing Frequency:** Establish a regular schedule for Waste Management Audits, ensuring consistent monitoring and evaluation of waste management practices.
- e. **Identification of Improvement Opportunities:** Analyse audit findings to pinpoint areas where waste management practices can be enhanced, such as optimizing recycling processes, reducing overall waste generation, or improving segregation procedures.
- f. **Stakeholder Engagement:** Engage with key stakeholders, including students, faculty, staff, and waste management personnel, to gather insights and perspectives on current waste management practices.
- g. **Recommendations Report:** Compile a comprehensive report outlining audit results, including a detailed analysis of waste composition, volume trends, and specific recommendations for improvement.
- h. **Implementation Planning:** Collaborate with relevant departments to develop actionable plans for implementing recommended improvements, ensuring a systematic and effective approach.
- i. **Monitoring Progress:** Implement mechanisms for continuous monitoring and follow-up to track the progress of improvement initiatives over time.
- j. **Adaptation and Evolution:** Maintain a flexible approach, adapting audit procedures based on evolving waste management practices, technological advancements, and sustainability goals.

#### 8. **Shared Responsibilities for Effective Waste Management:**

The responsibility for effective waste management is a collective commitment embraced by all stakeholders, including students, faculty, and staff. Recognizing that each member plays a crucial role in upholding sustainability, the distribution of responsibilities spans across the following key functions:

- a. **Waste Generators:** Waste generators (students, faculty, and staff) bear the initial responsibility for ensuring proper waste

sorting. By adhering to the prescribed guidelines, they contribute to the efficacy of subsequent waste management stages.

- b. **Custodial Staff:** Custodial staff pivotal in the waste management process, are entrusted with the task of collecting and transporting waste from various university buildings to designated storage areas. Their role is instrumental in maintaining a seamless waste management workflow.
- c. **Sanitation Staff:** The sanitation staff takes charge of managing waste storage areas, ensuring these spaces adhere to legal and regulatory standards. Their responsibilities extend to transporting waste to designated disposal sites, thereby contributing to a safe and compliant waste disposal process.

This shared responsibility framework emphasizes the integral role each stakeholder plays in Osmania University's commitment to effective waste management. It underscores the importance of collaboration, accountability, and compliance throughout the waste management lifecycle, aligning with the university's dedication to environmental sustainability.

The Waste Management Policy of Osmania University will ensure the source reduction and waste management through reduce, reuse and recycle processes. The policy envisages waste management by sensitizing the stakeholders across various strata through action and education. In the next three years, by implementing this policy, the university aims at greater than 50% target achievements with respect to reduce, reuse and recycle deliverables.

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