

STUDENT COMPETITION FOR WASTE BIN DESIGN

Proper waste segregation has immense potential to transform waste into valuable resources, playing a significant role in fostering a circular economy. Addressing inefficient waste management systems, which often culminate in open dumping at landfills, is crucial. Such practices harm the environment and public health. To combat this, structured waste management rooted in the 5R principles—Refuse, Reduce, Reuse, Repurpose, and Recycle—is essential. These principles aim to bring behavioural change within communities, ensure separation of wet and dry waste, implement effective waste processing practices, and establish linkages with recyclers. This comprehensive approach seeks to minimize waste sent to landfills and establish Zero-Waste premises.

A Zero-Waste to Landfill campus can be created by prioritizing maximum segregation at the source and collection stages. Dry waste management on campus can thus be envisioned in following three stages:

1. **Waste Bins:** Designing basic modular waste bins
2. **Waste Transfer Systems:** Streamlining the process of waste flow from bins to its final destination, including equipment, emptying processes, timelines, and manpower.
3. **Material Recovery Facility (MRF):** An enclosed area for sorting, processing, and clean storage of dry waste before selling it to upcyclers, aggregators, and recyclers.

Recognizing the importance of an appropriate waste bin system, CEPT University announces a Student Competition.

A) Competition Overview:

Focus:

Design waste bins and waste transfer systems for campuses and institutions (MRF design is not part of this competition)

Evaluation Criteria:

- Segregation Efficiency: Level of waste segregation and adapt to various waste types
- Ease of Use: User-friendly operations for cleaning, maintenance, and repair.
- Cost Effectiveness: Cost and labour efficiency.
- Scalability: Potential for replication, mass production and adaptability across diverse locations.
- Animal Protection: Design to prevent animal tampering.
- Material and Aesthetics: Durable material and design with appealing aesthetics.

B) Competition Design Guidelines:

1. Waste Bins:

Participants will design two waste Bin systems for Indoor and Outdoor locations in campuses and institutions. Bin system at any location will be a combination of any of the following bin types:

Waste Bin types	Description	Approx. Sizes (Ltrs)
Paper + cardboard	All types of clean paper & cardboard	40, 80, 120
Plastic	All types of clean plastic	40, 80, 120
Food container	All types of wet containers soiled with food or oil	120
Wet waste	All types of food remains both cooked and uncooked	40, 80
Miscellaneous	Glass, Metal, rubber, wood etc.	40

- Sturdy modular designs with easy installation, emptying, and cleaning.
- Covered and weatherproof outdoor bins
- Well-ventilated to prevent foul odors from wet bins
- Clear and well-designed info graphics
- Ease of visibility and accessibility

2. Schematic Waste Transfer System:

- Trolleys or alternate systems for secondary and tertiary waste transfer in a segregated manner
- Design equipment to empty the bins
- Manual mechanism for operations within campus premises

C) Competition Stages:

Stage 1: Conceptual Design

- Participants will submit conceptual designs online through sketches, drawings and digital model in pdf format. Optional 1:5 scale model can be submitted at CEPT campus office.
- Write-up of the Design in maximum 1000 words in pdf format.
- Submissions must include details about concept, materials, techniques, finishes etc.

Stage 2: Prototype Development

- Up to three shortlisted entries will move to the prototype stage.
- Participants must provide indicative costing for mass production.
- CEPT University will reimburse prototype costs (up to INR 50,000).
Note: Non-submission or failure to meet the conceptual design criteria will void reimbursement.

D) Competition Timeline:

Announcement of Competition <i>- Social media page of CEPT University, Emails, Posters</i>	March 4, 2025
Online Q&A Session <i>- Time: 11 IST, Google meet link</i>	March 9, 2025
Registration deadline for competition <i>- Registration link</i>	March 10, 2025
Stage 1: Conceptual Design Submission <i>- Entry submission link</i>	April 6, 2025
Stage 1: Announcement of three shortlisted Entries <i>- Will be notified through participant's email</i>	April 13, 2025
Stage 2: Prototype Submission <i>- Submission at the CEPT campus office</i>	May 11, 2025
Jury of Prototype submission <i>- Exact details will be notified later</i>	May, 2025
Announcement of Winner and Prize distribution <i>- Exact details will be notified later</i>	May, 2025

E) Eligibility:

- Open to current students and alumni (graduated within the last five years) of CEPT University.
- Individual participants or groups of up to three members can apply.

F) Awards and Prizes:

- Stage 1 - Three Shortlisted Entries: INR 25,000 each
- Stage 2 - Winner: INR 50,000

G) Evaluation and Final Selection:

- The Jury Panel will evaluate the designs based on the criteria outlined in this competition brief.
- The University reserves the right to modify competition criteria.
- Designs must not infringe copyright/trademark laws.
- CEPT University will co-own copyrights for winning designs.

H) Contact Details:

For further details, reach out at zero.waste@cept.ac.in with subject title as 'Dustbin design competition'.

Join us in reimagining waste management for a sustainable future!