[September/2026]

ESSAY COMPETITION

CENERS-K

KOLKATA

WEST BENGAL

Challenges and Opportunities to Mitigate Effective Plastic Pollution, Economy and Management: Designing Out Waste from Life to Line

CENERS-K

Concept Note

Plastic pollution has become one of the most pressing environmental issues of our time. Every year, an estimated 8 million metric tons of plastic waste enter our oceans, threatening marine life and ecosystems. This is equivalent to dumping a garbage truck full of plastic into the ocean every minute. By 2050, it's projected that there will be more plastic in the ocean by weight than fish if current trends continue. Micro plastics have been found in the deepest parts of the ocean and even in human blood, highlighting the pervasive nature of this problem. The production of plastic contributes significantly to greenhouse gas emissions. If plastic production and use grow as currently planned, by 2050, plastic-related emissions could reach 56 gigatons of carbon dioxide - 10-13% of the entire remaining carbon budget. Most plastics are derived from fossil fuels, with the petrochemical industry planning to invest $400 billion in additional plastic production capacity over the next five years, further exacerbating climate change. This widespread, often indispensable use of plastic has transitioned from a convenience to a severe ecological crisis, with synthetic polymers contaminating ecosystems, harming wildlife, and entering the human food chain through micro plastics. On the other hand, plastics positively impact our daily lives due to their basic applications in household activities and industrial packaging of various end-products. Although plastics have several important roles in our lives due to their physicochemical composition, they can cause different problems to human life and the ecosystem if the post-use disposal is not well-managed.

Tackling this ecological damage and challenge requires a twofold, concurrent approach: immediate changes in daily consumer habits and a systemic transformation of the manufacturing industry toward a circular economy. Individual actions, such as refusing single-use plastics, coupled with industrial innovations like adopting circular design and EPR frameworks, are essential. By shifting away from a culture of "use and throw" toward a "reuse and regenerate" model, it is possible to mitigate this environmental catastrophe and secure a sustainable future. The most effective collective, multi-stakeholder strategy/approach is to follow the hierarchy of Refuse, Reduce, Reuse, and Recycle. Consumers must say no to single-use items like plastic straws, cutlery, and bags.

Thus, tackling the ecological damage of plastic requires moving beyond just cleaning up waste. A successful strategy must combine top-down regulatory action—such as EPR—with bottom-up consumer behaviour changes and industry-led redesign. The goal is to keep plastics in a closed-loop system, ensuring they never become pollution.

CENERS-K is organizing an Essay Competition on how best to tackle the ecological damage being caused by usage of plastic in daily life and its usage in manufacturing industry. The purpose of the contest is to provide the opportunity for undergraduate and graduate students to write and disseminate scholarly articles on topics relevant to the following theme:

1. A comprehensive analysis of global plastic waste generation and its effect on land and marine environment
2. Understanding the Plastic Waste Crisis: An Overview
3. Environmental Regulations and Their Impact on Plastic Manufacturing
4. Strategies for Reducing the Environmental Footprint of Plastic Production
5. Innovations in Recycling Technologies for Plastic Waste
6. Alternative Materials to Plastic: Prospects and Limitations
7. Corporate Social Responsibility in the Plastic Manufacturing Industry
8. The Role of Consumers in Addressing the Plastic Crisis
9. The modern technologies for waste-to-energy and waste-to-production conversion
10. The potential challenges and a way forward for sustainable management technologies

This theme emphasizes transitioning from a "take-make-dispose" model to one where plastic is treated as a valuable material designed for continuous reuse, recycling, or natural decomposition, bridging the gap between daily lifestyle choices and manufacturing processes. Submissions from all disciplines and perspectives are welcome.

Categories:

1. Undergraduate (students pursuing a bachelor's degree at the time of submission).
2. Graduate (candidates pursuing master's, doctoral, or equivalent degrees, along with practicing professionals)

Submission Guidelines:

1. Authors entering the Student Essay Contest must be students currently enrolled in a fully accredited college/university within the state of India.
2. Submissions will include name, college/university, degree being sought, and expected graduation date. Papers require an author, three tags, a title, and an abstract. Abstracts

are limited to 200 words, titles are limited to 50 words, and all co-authors should be listed.

3. Essays may be inspirational, analytical, or pedagogical in nature.
4. Essays must be original, unpublished, and not under review elsewhere.
5. Essays will be a maximum of 3,000-3500 words and should be submitted in MS Word format.
6. Essays must be written in the applicant's own authentic voice, reflecting their personal thoughts and insights. Essays will be inspected to detect the percentage of AI-generated content, and the result will be considered in the application evaluation.

Timeline:

1. Online submission: Last date of submission 30th September, 2026: To be submitted at info@ceners-k.com
2. Winners will be notified in the month of October, 2026.

Award:

1. One undergraduate essay and one graduate essay and one doctorate candidate may be selected as the award recipients.
2. A prize and certificate will be awarded for each winning essay.
3. The winning essays may be published on the CENERS-K website at the discretion of the Article Review Committee.
4. The winning essays may be published in the Journal of CENER-K- Calcutta Journal of Global Affairs at the discretion of the editor.