

CLUB ACTIVITY THEME:

"Eco-Evolution: Engineering Sustainable Solutions for Global Challenges"

Objective:

Enhance students' understanding of creative ideation, product conceptualization, prototype development, sustainability and design validation through hands-on activities, brainstorming sessions, and case-based learning.

Problem Statement:

In today's rapidly evolving engineering landscape, the ability to design innovative, user-centric, and sustainable products is essential for meeting industry expectations. However, students often face challenges in converting raw ideas into practical, manufacturable designs due to limited exposure to real-world design methodology, user-need analysis, and systematic product development processes.

The challenge is to develop a structured approach that helps students understand the stages of new product design and apply these principles effectively in modern engineering applications.

Challenge:

Students were tasked with redesigning an innovative product, feature, or solution that addresses a real-world need. The proposed product could fall under any of the following categories:

1. Enhance the User Experience – Solve an existing pain point by simplifying daily tasks, improving accessibility, or enhancing user satisfaction.
2. Promote Sustainability – Develop eco-friendly design solutions that reduce environmental impact, improve resource efficiency, or encourage sustainable practices.



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3. Enable Digital Transformation – Create solutions that integrate digital technologies such as AI, IoT, automation, or digital security across sectors like healthcare, education, finance, or retail.
4. Address Social Challenges – Design products that support individuals with disabilities, improve access to healthcare or education, promote safety, or contribute to mental well-being.

Requirements:

1. PET Water Bottle (1 L / 750 mL)
2. Sports / Bike Helmet
3. Lunch Box with Compartments
4. Water Jar (20 L type)
5. Garbage Bin (Household)
6. First-Aid Box
7. Geometry Box
8. Reusable Grocery Storage Box
9. A3 sheets 2 no. Per student

Highlight of the Event:

Prof. P Srinivasa Kumar, Assistant Proferssor, Department of Mechanical Engineering, addressed the participants and emphasized the significance of innovation, and eco-friendly product development skills for budding engineers, particularly in mechanical and aeronautical domains.

Dr. Namrata B, Assistant Professor, Department of Mechanical Engineering, introduced the chief guest and explained the objectives, rules, and format of the activity.

The session was then presided over by the chief guest Shri L.N Raghavendra , who delivered an insightful session on:

Key Insights on Sustainable Product Redesign :

1. Innovation & Creativity in Engineering

- Importance of identifying real-world problems before designing solutions
- Brainstorming and concept-generation methods

- Thinking beyond conventional approaches

2. User-Centric Design

- Understanding user needs, ergonomics, safety, and usability
- Designing accessible, intuitive, and impactful products

3. Sustainability in Product Development

- Choosing eco-friendly materials
- Minimizing waste and improving energy efficiency
- Designing for durability and recyclability

4. Design for Manufacturing (DFM)

- Ensuring feasibility of mass production
- Cost-effective material and process selection
- Early-stage prototyping and design refinement

5. Modern Engineering Integration

- Use of CAD tools for modelling and testing ideas
- Role of digital tools, automation, and IoT in new product design



Photograph 1: Chief guest addressing and the Empowering Participants Through Visionary Leadership.



Photograph 2: Certificate distribution by judges.

The Club activity was very well coordinated, with the main emphasis on Sustainable Product Redesign, and the students were actively involved throughout the event. The session concluded with final remarks from Shri L.N Raghavendra Scientist 'G' (OS), Director of Propulsion, CEMILAC, DRDO Bengaluru, who highlighted the importance of transforming creative ideas into functional, user-centric products. He encouraged the participants to continue nurturing innovative thinking and to actively take part in future club activities to strengthen their design and engineering capabilities.

Outcome of the Club Activity:

- Enhanced creativity and innovative thinking.
- Improved understanding of the product design lifecycle.
- Strengthened ability to analyze user needs and propose practical solutions.
- Better integration of sustainability principles in engineering design.
- Improved skills in sketching, conceptual modeling, and prototyping.
- Strengthened teamwork, communication, and collaborative ideation.
- Increased awareness of industry expectations in modern product development.



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- Boosted confidence in presenting and defending design concepts.

Names of the Winner and Runner up of the Event

<u>Winner Team</u>	<u>Runner Team</u>
Devanshi Bhimta-1MJ24AE027	Rohit S-1MJ24ME013
Sakshi S - 1MJ24AE071	Adithya V-1MJ25ME400
Bushra Sadiqa-1MJ24AE020	Karen Anthony-1MJ24ME008
Anjana A-1MJ24AE010	Divya V-1MJ25ME401

Summary of the DYNAMECH Club Activity on Sustainable Product Redesign

Date of the Event	5 th May 2026
Time of the Event	01.30 to 4.00 pm
No. of. Participants	140 Students
Venue	Smt. Rajalakshmi Jayaraman Seminar Hall.
Title of the Event	DYNAMECH Club Activity on 'Sustainable Product Redesign'
Theme of the Event	"Eco-Evolution: Engineering Sustainable Solutions for Global Challenges"
Organized by	DYNAMECH Student Club, Department of Mechanical Engineering, MVJCE, in association with ISTE, IIC and IQAC – MVJCE
<u>Winner Team</u>	Sakshi S - 1MJ24AE071 Devanshi Bhimta-1MJ24AE027 Bushra Sadiqa-1MJ24AE020 Anjana A-1MJ24AE010
<u>Runner Team</u>	Rohit S-1MJ24ME013 Adithya V-1MJ25ME400 Karen Anthony-1MJ24ME008 Divya V-1MJ25ME401

STUDENT BANK ACCOUNT DETAILS

FIRST PRIZE(Winner)

AC NAME : Sakshi Sajjan
 AC NUMBER : 520191054355441
 BANK NAME : UNION BANK OF INDIA
 BRANCH : Gulbarga (Main/Super Market)
 IFSC CODE : UBIN0900940



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SECOND PRIZE (Runner-up)

AC NAME : Rohit S
AC NUMBER : 37450700845
BANK NAME : STATE BANK OF INDIA
BRANCH : Ramagondanahalli, BANGALURU
IFSC CODE : SBIN0012663

Report prepared by: Prof. Shivakumar H D