**SARVAJANIK UNIVERSITY**
**Sarvajanik College of Engineering and Technology**
**(SCET)**
**Bachelor of Technology**

## DEPARTMENT OF MECHANICAL ENGINEERING

A
Report
on

# MOMENTUM 2024

**(Under the banner of Kshitij 2024)**

**Date of event: 20th to 21st September, 2024**


*Theme – Vibrant Gujarat*

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Aasaan Gyaan Ki Talash Mein

MOMENTUM 2024

## About the Momentum 2024

**'Momentum 2024'** was organized by the **Department of Mechanical Engineering** under the banner of Kshitij Techfest 2024 on **20th to 21st September, 2024**. To showcase and enhance participants' capabilities, Momentum 2024 consists of **05** technical and **02** non-technical event.

The Techfest had received **208 registrations** from different colleges of Surat like Dr. S & SS Ghandhy Government Engineering College, Surat; Shree Swami Atmanand Saraswati Institute of Technology (SSASIT), Surat; Government Pharmacy College, Surat and C.K. Pithawalla College of Engineering and Technology, Surat.

## Inauguration ceremony

The inauguration ceremony of the event was initiated with a lamp lighting ceremony & prayer, and thereafter all theparticipants were welcomed by **Dr. Mayank Dalal** – Dean SWAC and **Dr. Pankaj Gohil** - Head of Department. Then faculty coordinators of the event, conveyed their wishes, and lastly the student event coordinator briefed about the Techfest.

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MOMENTUM 2024

## Schedule of Momentum 2024

Sarvajanik College of Engineering & Technology, Surat
Mechanical Department
MOMENTUM 2024
Schedule (20/09/2024 - 21/09/2024)

**DAY 1**

| | Events Name | 9:00 | 9:30 | 10:00 | 10:30 | 11:00 | 11:30 | 12:00 | 12:30 | 13:00 | 13:30 | 14:00 | 14:30 | 15:00 | 15:30 | 16:00 | 16:30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 Sep 2024 | Inaugration | Old Workshop | | | | | | | | | | | | | | | |
| | CAD-lympics (Round-1) | | | CAD LAB (K- 102 A) | | | | | | | | | | | | | |
| | Placement (Round-1) | | | Mechanical engineering department classroom (L-105) | | | | | | | | | | | | | |
| | Placement (Round 2) | | | | | | | IT - Lab 4 (E-104) | | | | | | | | | |
| | Counter Strike 1.6 (Round-1) | | | | | | | | CAD LAB (K- 102 A) | | | | | | | | |
| | Catapult Chaos (Round-1) | | | | | Old Workshop (H-01) | | | | | | | | | | | |
| | Rocket & Space (Round-1 & 2 ) | | | | | New Workshop (K- 01&02) | | | | | | | | | | | |
| | Film se Meme Tak | | | | | | | Drawing Hall 1 (K-101) | | | | | | | | | |
| | Hydraulic Hustle (Round 1) | | | | | | | | | | | New Workshop (K- 01&02) | | | | | |

**DAY 2**

| | Events Name | 9:00 | 9:30 | 10:00 | 10:30 | 11:00 | 11:30 | 12:00 | 12:30 | 13:00 | 13:30 | 14:00 | 14:30 | 15:00 | 15:30 | 16:00 | 16:30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 Sep 2024 | CAD-lympics (Round 2&3) | CAD LAB (K- 102 A) | | | | | | | | | | | | | | | |
| | Placement (Round 3) | | | | | | | | | | | CAD LAB (K- 102 A) | | | | | |
| | Counter Strike 1.6 (Round-2) | | | | | | CAD LAB (K- 102 A) | | | | | | | | | | |
| | Catapult Chaos (Round-2) | | | | | Old Workshop (H-01) | | | | | | | | | | | |
| | Hydraulic Hustle (Round 1) | | | | | | | | | | | New Workshop (K- 01&02) | | | | | |
| | Rocket & Space (Round-3) | | | New Workshop (K- 01&02) | | | | | | | | | | | | | |
| | Film se Meme Tak | | | | | | | Drawing Hall 1 (K-101) | | | | | | | | | |
| | Prize Distribution and Closing Ceremony | | | | | | | | | | | | | | | | New Workshop (K- 01) |

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MOMENTUM 2024

# Events of Momentum 2024

## 1. Rocket and Space

The Rocket Launcher event was designed to challenge students creativity and practical skills in a hands-on engineering task. Teams were tasked with building a plastic rocket using a bottle and various raw materials provided. The goal was to create a rocket that showcased innovation and optimum aerodynamic strength, allowing it to soar to its highest peak.

In the initial round, participants were required to design a parachute using materials like plastic bottles, polythene, sticks, paper sheets, and rope. The challenge was to launch the parachute into the air, with the primary criterion being the time it took to land. Teams whose parachutes stayed aloft the longest advanced to the final round.

For the final challenge, teams had to fine-tune their rockets and aim them at a target board. Precision, control, and design were key in this round, testing not just their creativity but also their ability to balance accuracy and flight dynamics. The event encouraged innovative problem-solving while adding an element of competitive fun, as participants strived to hit their targets with their custom-built rockets.


## 2. Placement

As part of placement drive, this event was conducted to test the ability of students to go through the basic processes of an actual placement drive. They not only learned what is expected by employer but also got an opportunity to show off their abilities.


There were total of 3 rounds:

- Round 1: Aptitude Test
- Round 2: Group Discussion
- Round 3: Technical Interview & HR Interview

A preliminary round of an aptitude test in which three types of questions were asked: technical, logical reasoning and English grammar.

The second round consist of Group discussion. Group discussion (GD) rounds help interviewers assess and judge an individual's personality, perspectives, behavioral traits, divergent thinking, leadership, communication, analytical skills, etc., in a large setting.

And the final round was Technical & HR interview. A technical interviewer from reputed company interviewed each candidate regarding technical knowledge and human resource professional from the industry interviewed each candidate, which included general questions and projects elaboration.

## 3. CADlympics

The CADlympics event provided an excellent opportunity for students to demonstrate their design expertise using industry-standard software such as AutoCAD, SolidWorks, and Fusion 360. This event aimed to test both creativity and technical proficiency, requiring participants to have a solid understanding of design tools and engineering concepts.

In the first round, participants were given 1 hour to create a detailed 2D drawing from an isometric drawing that included precise dimensions. The focus was on accuracy, adherence to the dimensions, and the level of detailing in the drawing. Those who demonstrated exceptional precision and understanding of the design process were shortlisted for the next stage.

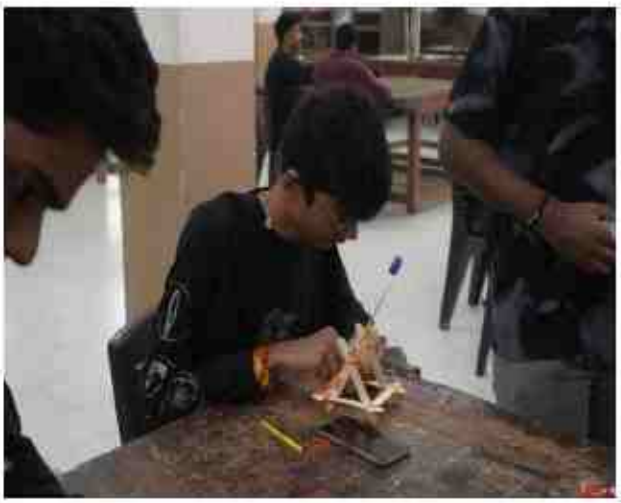

The second round challenged participants further by asking them to convert the 2D drawing into a 3D model, again within a 1-hour time frame.

The evaluation in this round was more comprehensive, as participants were judged not only on the completion of the model but also on the appropriate use of features and functions in the software. The complexity of the design, the use of advanced tools, and the practicality of the model were key factors in the final assessment.

## 4. Catapult Chaos

Catapult Chaos was an exhilarating event where creativity and engineering skills came together in a thrilling challenge. Participants were given simple materials ice cream sticks, glue, rubber bands, and bottle caps to construct a functional catapult capable of launching small objects with both precision and distance. The event required a mix of ingenuity and practical problem-solving, as teams had to design, test, and refine their catapults to maximize performance.


Throughout the event, teams enthusiastically experimented with different techniques, adjusting angles, tension, and configurations to optimize their catapult's effectiveness. The competition fostered a fun, hands-on learning environment that encouraged innovation, teamwork, and critical thinking. It was a perfect blend of playful competition and technical learning, leaving participants not only inspired but also better equipped with practical engineering experience. The excitement and collaborative spirit of the event made it a memorable experience for everyone involved.

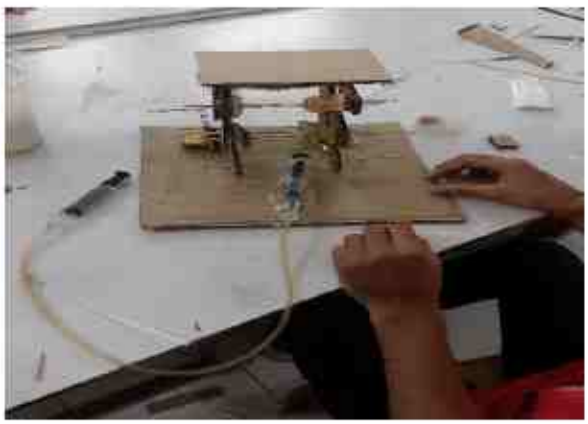


## 5. Hydraulic Hustle

Hydraulic Hustle was an engaging and hands-on event designed to test the creativity and engineering skills of participants in the field of hydraulics. In this challenge, teams were provided with basic materials like cardboard, glue, rubber bands, and syringes to create a functional model capable of hydraulic lifting. The goal was to apply fundamental principles of fluid mechanics to build a working hydraulic system using the provided syringes to lift weight.

The event was divided into two rounds. In the first round, teams had 60 minutes to construct their hydraulic models. This phase required participants to carefully plan and execute their designs, ensuring that their models could effectively use hydraulic pressure to generate lift. Teams employed different strategies, experimenting with lever systems and optimizing the movement of the syringes to maximize efficiency.


In the second round, the models were put to the test. Teams were challenged to lift the maximum possible weight with their hydraulic systems. The evaluation was based on both the functionality of the design and the weight-lifting capacity of the model. Hydraulic Hustle not only encouraged innovative thinking but also provided participants with a practical understanding of how hydraulic systems work, making it an exciting and educational experience for all involved.



## 6. Counter strike


## 7. Film se Meme Tak

# Winner's List of Momentum 2024 Events

| Sr No. | Event Name | Name of the Participant | Position |
|---|---|---|---|
| 1 | CADlympics | Yash Shah | 1st |
| | | Ramsnehi Harsh Rajubhai | 2nd |
| | | Kishan Parmar | 3rd |
| 2 | Placement | Yashraj Thakor | 1st |
| | | Ansh mehra | 2nd |
| | | Raivat Purohit | 3rd |
| 3 | Rocket & Space | ketul Shah, Rishabh gohil and Dhirendra patel | 1st |
| | | Varshil shah, Aryan Chauhan, Dev Panchal and Sneh thummar | 2nd |
| | | krish patel and Anil Yadav | 3rd |
| 4 | Catapult Chaos | Ebrahim Poonawala and Veer Shehta | 1st |
| | | Rishi Panchal and Dev Panchal | 2nd |
| | | Parth Patel and Darshan Jhaveri | 3rd |
| 5 | Hydraulic Hustle | Kashyap Sanghvi and Harshil Desai | 1st |
| | | Ebrahim Poonawala and Veer sheta | 2nd |
| | | Parth Jagetiya and Tanisha Agarwal | 3rd |

# Team Momentum 2024

## Momentum Core Team:

1. **Deep Golakiya**
2. **Naiteek Dhakecha**
3. **Krish Patel**
4. **Kashyap Sanghavi**
5. **Parth Jagetiya**

## Student Coordinators:

1. **Cadlympics:** Vansh Patel, Neel Tandel, Patil Bhushan and Somay Choudhary.
2. **Catapult Chaos:** Ketul Shah, Dhirendra Patel and Rishabh Gohil.
3. **Rocket and Space:** Parth Patel, Darshan Zaveri, Kishan Parmar and Smit Pansuriya.
4. **Placement:** Ankit Thakur, Harsh Pandey, Dhairya Khansaheb and Vrushab Khatre.
5. **Hydraulic Hustle:** Jashraj pachigar, Harsh Patel and Tapas Naik.
6. **Film se meme tak:** Parth Jagatiya, Manav Patel, Krish Bhala, Feni Isamaliya and Khush Patel.
7. **Counter strike:** Solanki parth and Sanskar singh

## Faculty Coordinators:

**Prof. Satish Dokiparti and Prof. Dhruvin Shukla**

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## From Team Momentum 2024


*As the saying goes, "Success is not the key to happiness; happiness is the key to success. If you love what you are doing, you will be successful." Over the course of two exciting days, around 208 students enthusiastically participated in various events, showcasing both individual and team efforts. The passion and dedication were evident as participants demonstrated their creativity, problem-solving, and technical skills across a wide range of activities. During the closing ceremony, winners were recognized and awarded, while certificates were presented to all participants in appreciation of their involvement.*

*These two days were not just about competition but about joy, learning, and growth. Students gained invaluable experience, represented their skills with confidence, and left with a deep sense of accomplishment. The event was a perfect blend of fun, collaboration, and knowledge-sharing, creating memories that will last far beyond the event itself.*

*Of course, none of this would have been possible without the hard work of the core team members, student coordinators and volunteers, who worked tirelessly under the guidance of the supervising faculty. Their dedication ensured everything ran seamlessly. A heartfelt congratulations to the entire organizing team for making this event a resounding success!*

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