



SARVAJANIK UNIVERSITY
Sarvajani 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

The poster for Momentum 2024 features a central illustration of a modern building with a large clock tower, surrounded by a lion, a swan, and a person in traditional attire. The text is arranged around this central image, listing various activities and sponsors. The top section includes the university and department names. The middle section lists activities like 'Pocket & space', 'Placement', 'HYDRAULIC HUSTLE', 'Catapult chaos', 'CADlympics', 'FILM से MEME तक', and 'COUNTER STRIKE 1.6'. A QR code for registration is also present. The bottom section features the Momentum 2024 logo and the date. The theme 'Vibrant Gujarat' is mentioned at the bottom.

SARVAJANIK UNIVERSITY
SARVAJANIK COLLEGE ENGINEERING AND TECHNOLOGY, SURAT
DEPARTMENT OF MECHANICAL ENGINEERING

Pocket & space
Placement
HYDRAULIC HUSTLE
Catapult chaos
CADlympics
FILM से MEME तक
COUNTER STRIKE 1.6

Sponsored by : **SHAH** **VF**

MOMENTUM 2024
DATE : 20-21 SEPT. 2024

Theme – Vibrant Gujarat

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 the participants 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.



Schedule of Momentum 2024

Sarvajani College of Engineering & Technology, Surat																	
Mechanical Department																	
MOMENTUM 2024																	
Schedule (20/09/2024 - 21/09/2024)																	
DAY 1																	
20 Sep 2024	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
	Inaugration	Old Workshop															
	CAD-Iympics (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																	
21 Sep 2024	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
	CAD-Iympics (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)	



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.



Department of Mechanical Engineering

ROCKET & SPACE

Rules

- Team Event (Max 4)
- 1st round (20 Sept. 24) : Model preparation from given Raw materials.
- 2nd round (20 Sept. 24) : Let it fly.
- 3rd round (21 Sept. 24) : Surprise round.

Registration Fees : ₹80/-

Date: 20/21 Sept. 24
Time: 11:00 AM

Venue: New Workshop (R. C1 & C2)
(DOME, SCE)

Parth Patel : 9724148248
Darshan Jhaveri : 7621978339
Kishan Parmar : 9427546725



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.

Department of Mechanical Engineering

PLACEMENT

Rules

- This event will simulate an environment process that arms you with the real life knowledge to interview.
- The event will consist of 3 rounds
- 1. Aptitude test (MCQ)
- 2. Group discussion
- 3. Technical & HR interview (by Industrial Expert)

Registration Fees: ₹30/-

MOMENTUM 2024

QR Code: Scan for Registration

Date: 2021-22 Sept. 24
Time: 10:00 AM
Venue: Mach Gokulnagar, K.T.H.S.
APRIL 5021

Ankik Thakur : 6355339276
Vrushabh Kharate : 7778848390
Dhairya Khansahab : 6359276524



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.



The poster for CADLYMPICS is a dark-themed flyer. At the top left are the logos of SU (Savitribai Phule University) and the Department of Mechanical Engineering. The title 'CADLYMPICS' is in large, bold, white letters. Below it, the word 'Rules' is written in a smaller font. A list of rules follows: Round 1 (20 Sept 24) for a simple 2D drawing, Round 2 (21 Sept 24) for a complex 2D drawing, and Round 3 (30 Sept 23) for a 3D model. A QR code for registration is on the right. Event details include the date (20-21 Sept 24), time (10:00 AM), and venue (CAD LAB, IC-102 A). Contact information for Rishabh Patel, Sonny Chaudhary, and Varsh Patel is at the bottom right. The Momentum 2024 logo is at the bottom left.

Department of Mechanical Engineering

CADLYMPICS

Rules

- The event is based on Computer Aided Design (drafting & modeling) software.
- Round 1 (20 Sept 24) to create a simple 2D drawing of a given geometry (within 15 mins) using given CAD softwares.
- Round 2 round (21 Sept 24) to create a complex 2D drawing of a given geometry using given CAD softwares.
- Round 3 final round (30 Sept 23) to create a 3D model of a given geometry using given CAD softwares. (AutoCad, Fusion360, Solidworks)

Registration Fees: ₹20/-

QR Code

Scan for Registration

Date: 20-21 Sept 24
Time: 10:00 AM

Venue: CAD LAB
(IC-102 A)
DnME, SDET

CONTACT

Rishabh Patel : 9875173066
Sonny Chaudhary : 8758996180
Varsh Patel : 7041167831

MOMENTUM 2024



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.

In the first round, teams were given 60 minutes to build their catapult models. This round pushed participants to think quickly and execute their designs efficiently. In the second round, the challenge intensified as participants aimed to hit a designated target, testing the accuracy and power of their creations.



Department of Mechanical Engineering

CATAPULT CHAOS

Rules

- Team Event (Max 2)
- Round 1 : Build and assemble the model (Time duration 60 mins).
- Round 2 : Target Hit with the prepared model
- Note : Reference video will be available.

Registration Fees : ₹40/-

QR Code for Registration

Date : 20.21 Sept-24
Time : 11:00 AM

Venue : Old Workshop (H-01)
DoME, SCET

DM
MOMENTUM 2024

Illustration of a catapult launching a ball.

Dhirendra Patel : 8141410622
Ketul Shah : 9879962664
Rishabh Gehil : 9574540310

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.

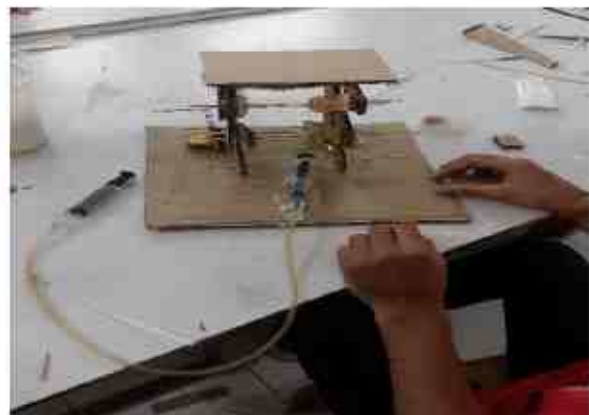


5. Hydraulic Hustle

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.







Department of Mechanical Engineering

HYDRAULIC HUSTLE

Rules

- Its a Group event (max 2)
- Round 1 (20 Sept. 24) : Model preparation based on hydraulic lifting. (Raw material will be provided).
- Round 2 (21 Sept. 24) : Testing and competition of the prepared model.

Note : Participants will be provided the video tutorial of preparing the model.

Registration Fees: ₹50/-

Date : 20,21 Sept. 24
Time : 03:00 PM

Venue : New Workshop (R-01 & 02)
DeME, SCET



Scan for Registration



MOMENTUM 2024



Harsh Patel : 9726556774
Jashraj Panchbhai : 9924104231
Tapas Nadi : 9420520470

6. Counter strike







Department of Mechanical Engineering

COUNTER STRIKE 1.6

Rules

- Team event (Max. 4)
- Round 1: Death Match
- Round 2: Final competition among top teams.
- Note : Player can bring there own headphones, keyboard etc.



Scan for Registration

Date: 2023 Sept. 24
Time : 12:30 PM

Venue: EAGLE (E-102A)
Date: 30.09

Registration Fees: ₹100/-




Sanskar Singh : 9862266274
Parth Solanki : 9825700851

7. Film se Meme Tak







Department of Mechanical Engineering

FILM से MEME तक

Rules

- Entire event will be played in a group of two or three.
- Each round is an elimination round we give yout how shot.
- All the participants are requested to register on time as per given schedule.
- Any student enjoyed every moment want competition.
- Round 1: Bollywood Classics
- Round 2: Meme Word
- Round 3: Scavenger Hunt



Scan for Registration

Date: 2023 Sept. 24
Time : 1:00 PM

Venue: Meeting Hall
Date: 29.09

Registration Fees: ₹10/member




Parth Jagtapia : 7375043185
Manav Patel : 7064200556
Krush Bhakate : 8355180117

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 Dharendra patel	1st
		Varshil shah, Aryan Chauhan, Dev Panchal and Snehtummar	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, Dharendra Patel and Rishabh Gohil
3. **Rocket and Space:** Parth Patel, Darshan Zaveri, Kishan Parmar and Smit Pansuriya
4. **Placement:** Ankit Thakur, Harsh Pandey, Dharya 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

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!

