

NEWS LETTER

JAN - JUNE 2024



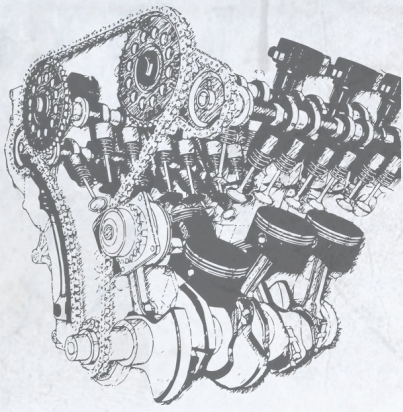
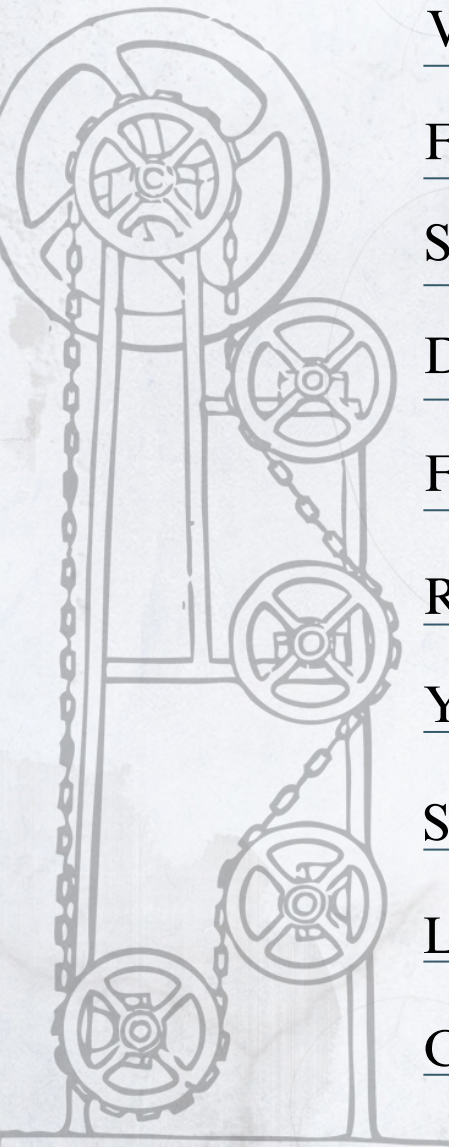


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VISION AND MISSION



VISION

To create an excellent environment for quality base education in the field of Mechanical Engineering for preparing socially responsible technocrats and entrepreneurs.



MISSION

- Impart quality education and enhance the creative and innovative skills to nurture globally acceptable mechanical engineer.
- Provide state-of-the-art laboratories and teaching-learning environment through qualified faculties.
- Develop linkage with Industry for excellence in research and consultancy services.
- Encourage life-long learning, ethical values and entrepreneurship culture for industrial and societal needs.

PEO's and PSO's of Department

Program Educational Objectives (PEOs)

- Apply core subject knowledge to various challenging problems.
- Adopt technical skills and leadership capability to explore the problems and present the solutions with professional ethics.
- Plan and manage the production of components as per needs of the society.
- Utilize engineering software and experimental capabilities to pursue research, higher education and entrepreneurship.

Program Specific Outcome (PSOs)

- Graduates will be able to apply technical knowledge to identify, formulate and solve Mechanical Engineering problems relating to thermodynamics, fluid sciences, materials science, design and dynamics and industrial management.
- Graduates will utilize their skills to solve industrial and R&D problems using modern engineering tools, latest software and equipment for environment friendly solution.
- Graduates will be able to pursue their career as professional entrepreneur



FROM THE HOD'S DESK

The first half of 2024 has been a period of remarkable achievement and forward momentum for our department. In line with our vision for an education rooted in innovation and holistic development, we have actively fostered an environment where students can turn ideas into reality.

Our students' academic excellence continues to shine, with two students achieving impressive All India Ranks in the GATE 2024 examination. The VGEC Rocketry Team also made us proud by qualifying for the second round of TEKNOFEST 2024. A truly inspiring moment was the team's visit to ISRO's Space Applications Centre, which fueled their passion for India's space exploration efforts. To support these ambitions, we also organized a well-attended expert talk on GATE preparation.

Our faculty have continued their scholarly pursuits through numerous publications and development programs. I thank our dedicated faculty, enthusiastic students, and supportive partners for a successful and innovative start to the year. Moving forward, we are committed to expanding these opportunities by establishing new platforms for student-led projects and encouraging even greater participation in national and international competitions.

Dr. P K Brahmhatt



VGEC Rocketry Team 2024

VISION

Our vision is to revolutionize rocketry through innovation and teamwork. We aim to break barriers and reach new heights, setting new standards in the field.

MISSION

To become the center of aerospace learning and passion where students can come to get core hands on learning experience.

To become a name in Indian amateur rocketry circles where we are referred to as pioneers of the industry in India.

PROJECT VENESSA - FIRST TWO-STAGE ROCKET

Vanessa was developed as a proof-of-concept to demonstrate stage separation, a key step toward more advanced multistage rockets. The aim was not high altitude but to gain practical experience with stage separation, propulsion integration, avionics, and recovery. The project followed a simple approach: build with accessible methods, focus on learning, and improve through iteration. Insights from Vanessa directly support the development of Asthsiddhi, our next-generation two-stage rocket..

RECRUITMENT & TRAINING

Multi-stage selection process:
Round 1: Google Form application + personal statement

Round 2: Thesis STEM top

Round 3: Interview + problem-solving assessment
77 applicants shortlisted 2-week probation. Ongoing training in Mechanical and Avionics domains.

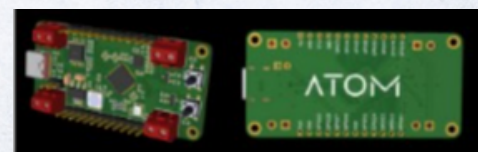


MODEL ROCKETRY WORKSHOP

- Introductory workshop on model rocketry fundamentals
- Topics: Propulsion, Avionics, Recovery, and Structures.
- Concluded with live demonstration launch

ATOM - FLIGHT COMPUTER

Educational Flight Computer (COTS Prototype) Designed a compact, beginner-friendly flight computer for the Indian model rocketry community. Developed as a commercial off-the-shelf (COTS) product, funded under SSIP (Student Startup and Innovation Program). Focus: accessibility, reliability, educational use for student rocketry teams. Key Features: Pyro Channels for dual deployment, Independent Power Channels for main supply and ejection (can be shunted for single-source use). BMP390 Pressure Sensor for altitude measurement, LSM9DS1TR 9-axis IMU (accelerometer, gyroscope, magnetometer). ~20 GPIO pins, allowing use as a development board.



SOME FAILURES



Faculty Achievement

Presented Paper in National Conference

SR NO.	Name of Faculty	Title of paper / title of book / book chapter	Conference organizing institute	Year
1.	N S Mehta	Closed loop flat plate oscillating heat pipes	National Conference LDRP Technocon 23	2023-2024



Student Achievement

VGEC Rocketry Team participated in TEKNOFEST 2024, the worlds largest aerospace and technology festival, a rocket competition in medium altitude category. Team stood 69th in first round and got qualified for second.

MeetkumarRakeshbhai Rajvanshi (Sem VIII-Mechanical Engineering Department) qualified GATE 2024 Examination in Mechanical Engineering with AIR 1984 and got admission in M tech at IIT Madras

Shaikh Mo Saad Mo Miya (Sem VIII-Mechanical Engineering Department) qualified GATE 2024 Examination in Mechanical Engineering with AIR 9047

DEPARTMENTAL ACTIVITIES

Expert Talk & Academic Guidance

The department organized an Expert Talk on “Preparation of GATE Examination” on 6th March 2024.



The Mechanical Engineering Department of Vishwakarma Government Engineering College has organized an expert talk on “Preparation of GATE Examination” on 6th march, 2024. The lecture aims to guide students on effective strategies and methodologies to excel in the Graduate Aptitude Test in Engineering (GATE). The lecture was conducted by Meet Rajvanshi, who is an experienced educator renowned for their expertise in GATE preparation. The session was attended by 30 students from SEM IV and VI. The overall coordination of the session was conducted by **Prof. R.P. Vyasa** and **Dr. D.S. Mehta**.

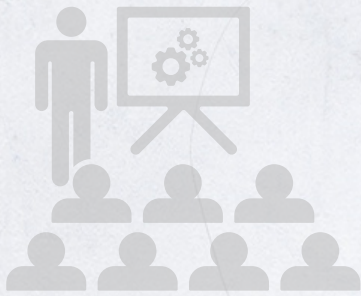


On April 12th, the **VGEC Rocketry Team** had an unforgettable experience at the Space Applications Centre (SAC), ISRO. The visit offered an up-close look at the Gaganyaan project, providing deep insights into its advanced electronics and sensor technology.

A major highlight was meeting **Dr. Nilesh Desai**, the Director of SAC. His guidance and vision instilled a new sense of purpose in the team. Witnessing prototype rovers and satellite mechanisms first-hand in the clean room was awe-inspiring. This journey didn't just expand our knowledge; it ignited our passion and reinforced our commitment to contributing to India's space exploration.

Faculty Development & Training

Department faculty members attended Industrial Training at various Industries to bridge the gap between academic theory and industry practice



Industrial training is the catalyst for transforming academic knowledge into real-world relevance. It ensures our educators are at the forefront of technological innovation, thereby equipping our students with the practical insights and skills demanded by today's dynamic industries.

FACULTY DEVELOPMENT PROGRAMME

sr no.	FDP (Faculty Development Programme) attended
1.	Prof. K R Patel attended twelve-week online training on Soft Skill Development during Jan-March 2024 at NPTEL, MOOC(IIT, Kharagpur)
2.	Prof. K R Patel attended one week training on Train the Trainer Program-Electrical Vehicle-(EV1.0) during 18-22 March 2024 at iACE, Gandhinagar.
3.	Prof. D S Mehta attended twelve week online training on Gas Dynamics Fundamentals and Applications during Jan- April 2024 at NPTEL, MOOC (IISC Bangalore).
4.	Prof. S S Patel, Prof. J M Joshi and Prof. V K Patel attended twelve week online training on Leadership and Team effectiveness during Jan- April 2024 at NPTEL MOOC
5.	Prof. R P Vyasa and Prof. N S Mehta attended four-week online training on Fundamentals of Semiconductor Package Manufacturing & Test 15 May-15 June 2024
6.	Prof. N S Mehta attended one week training on From Concept to Manuscript: A Deep Dive into Research Writing Techniques during 24-29 June 2024 at CTE, Gandhinagar



Research, Projects & Academic Contributions

Sr. No.	Name of Faculty	Title of Paper/Title of Book/Book Chapter (with ISSN/ISBN)	Journal Name/Book Publisher
1.	A A Pujara	A hybrid fuzzy decision-making trial and evaluation laboratory and multi-criteria decision making approach for successful implementation of supply chain collaboration strategies EISSN: 2949-8635	Journal: Supply Chain Analytics (Elsevier) Vol. 4, 100034, 2024
2.	A A Pujara	Towards Sustainable Success: A Framework for Assessing Performance of Sustainable Manufacturing Adoption in Indian Textile Industry ISSN : 2666-1888	Journal: Sustainable Futures (Elsevier) Vol. 7, 100085, 2024
3.	R P Vyas	Review of Vibration Monitoring in Machining EN Series Material ISSN:2321-0613	Journal: International Journal for Scientific Research & Development Vol. 12, Issue 5, 2024

Young Mind

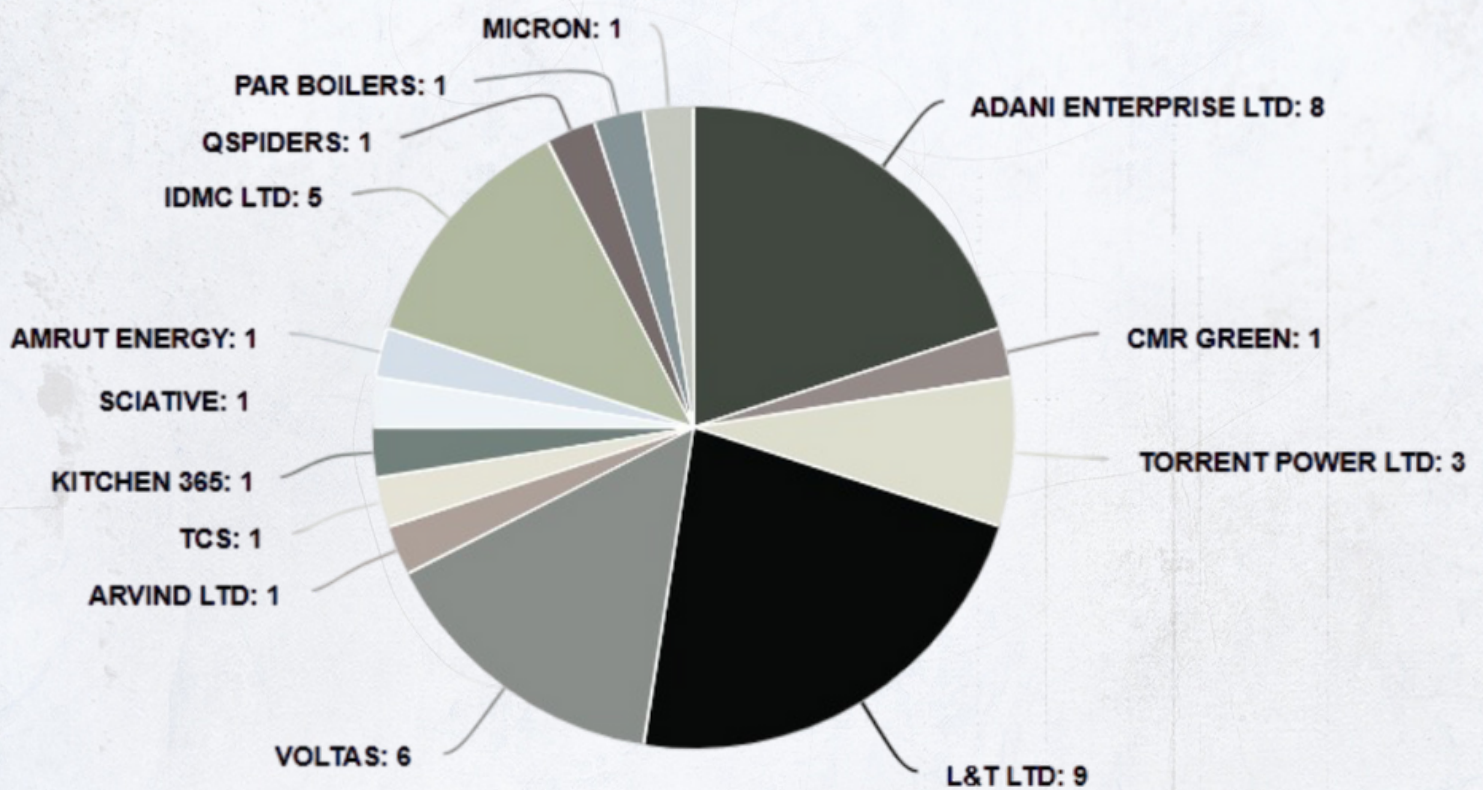
Dhairya Rajdev (Sem VII)

Being a part of the **VGEC Rocketry Team** has been a transformative experience, but the visit to ISRO truly cemented my purpose. Before joining the team, my interest in space was largely theoretical—I'd read about missions and technologies in books and online. Being a member changed that. It taught me the discipline of working towards a tangible goal, the importance of collaborating with a diverse group of minds, and the resilience needed to overcome complex technical challenges.

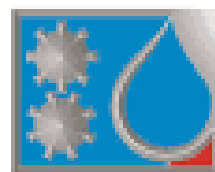
The visit to the Space Applications Centre, however, was on another level. It wasn't just about seeing the hardware; it was about understanding the human element behind it. Meeting Dr. Nilesh Desai was the most defining moment. His humility and unwavering passion for India's space journey made a profound impression on my young mind. It shifted my perspective from merely wanting to build rockets to aspiring to contribute meaningfully to a national mission. This experience has given my passion a new direction, turning my abstract dreams into a focused, purposeful approach to my academic and professional life. I now see myself not just as an engineering student, but as a future contributor to a legacy of innovation.

Student Placements & Industry Connect

- Mechanical students secured placements in reputed companies during Jan–March 2024, reflecting strong industry linkages.



OUR MAJOR RECRUITERS



Looking Ahead – Upcoming Initiatives

For the upcoming quarter, the Department plans to:

Organize industrial visits for hands-on exposure.

Encourage students for appearing GATE examination

Conduct skill-based workshops & training programs.

Closing Message

The Mechanical Engineering Department at VGEC continues to move forward with a clear vision – to nurture engineers who are innovative, industry-ready, and research-oriented. Through faculty development, student achievements, industrial collaborations, and research excellence, the department remains committed to building a future-ready generation of mechanical engineers.

“Innovation distinguishes leaders from followers, and teamwork turns ideas into reality.”

Faculty Coordinator

Prof. Viral A. Thakar
Prof. Swapna A. Pawar

Student Coordinator

Bhavadip Vagh
220170119104

Student

Tirth Makwana
Shwetanshu Shah

Arpit Ashok Bendre
Nisarg Islaniya

Vansh KO Patel
Hariom Raval