



# DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE (AUTONOMOUS)

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# SKYSIGHTS



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Professor & Head  
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## ACKNOWLEDGEMENT

With immense joy and gratitude, the **Department of Aerospace and Aeronautical Engineering** proudly presents this edition of our Newsletter. This achievement would not have been possible without the encouragement, support, and contributions of several distinguished individuals and groups to whom we owe our sincere thanks.

First and foremost, we extend our heartfelt gratitude to our Honourable **Chancellor Ayya** and the **Trust Members** of our esteemed institution. Their visionary leadership, continuous encouragement, and commitment to academic excellence have been the guiding force behind every milestone of our department.

We are deeply grateful to **our Principal, Dr. Shanmugasundharam**, for his constant support and motivation. His encouragement has always inspired us to strive for innovation and excellence, enabling us to bring out this newsletter with pride.

Our sincere thanks go to our **Final Year Coordinator, Mrs. Karthiga Ma'am**, whose dedicated guidance, timely advice, and encouragement have been instrumental in shaping this edition. Her tireless efforts in coordinating and supporting student activities deserve special recognition.

We also extend our gratitude to our **Head of the Department, Dr. Kathiresan** for being a source of motivation and guidance. His leadership and constant encouragement have helped us channel our creativity and technical skills into this meaningful publication.

We would like to acknowledge the invaluable role of **our faculty members** and staff, who have always encouraged us to explore, learn, and express ourselves beyond the classroom. Their mentorship and support form the foundation upon which this newsletter stands.

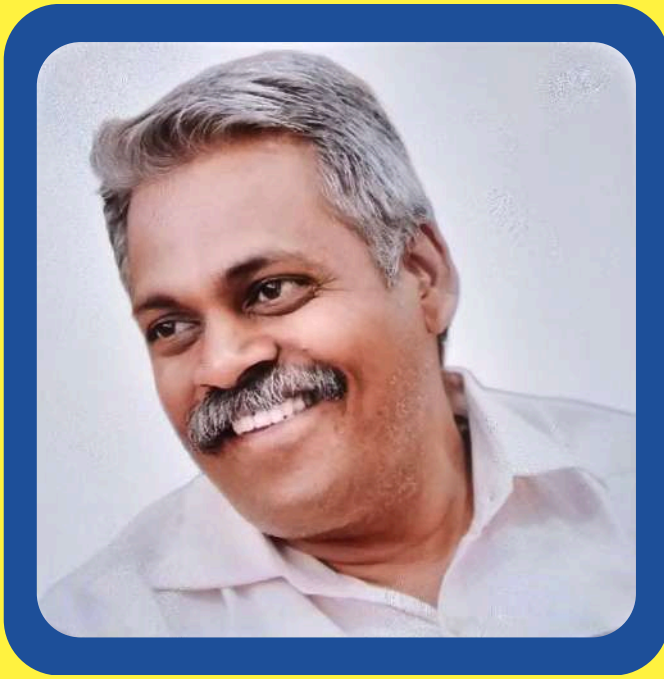
A special note of appreciation is due to **our alumni**, who continue to inspire us with their achievements and contributions. Their valuable inputs and guidance enrich this newsletter, while also motivating current students to aspire higher in their academic and professional journeys.

We wholeheartedly thank **the Editorial Team**, comprising **final-year Aerospace and Aeronautical students**, whose dedication, hard work, and creativity brought this edition to life. From collecting articles and designing layouts to editing and compiling content, their efforts have been commendable.

Last but not least, we extend **our gratitude to the students from other years** and departments who actively contributed articles, ideas, and creative inputs. Their participation added diversity and freshness to this edition.

This newsletter is a reflection of teamwork, passion, and commitment. To everyone who supported us in this journey, we express our deepest gratitude. Together, we will continue to soar higher and uphold the spirit of aerospace and aeronautical engineering.

**“The sky is not the limit; it is just the beginning.”**



Dear Students,

Welcome to a new semester in the Department of Aeronautical & Aerospace Engineering.

As we embark on this academic journey together, I encourage each of you to approach your studies with curiosity, discipline, and a passion for innovation. This field demands both precision and creativity, and we are here to support you every step of the way.

Let this semester be one of growth, discovery, and meaningful progress. Stay committed, collaborate openly, and never hesitate to reach out to your faculty—we're invested in your success.

Wishing you a productive and inspiring semester ahead.

Warm regards,

**Dr Katherasan Duraisamy**  
Professor & Head Department of  
Aeronautical & Aerospace Engineering

## Theme

Skysight is designed to be the official voice of the Department of Aeronautical and Aerospace Engineering — a dynamic platform that connects students, faculty, alumni, and industry. The newsletter aims to:

- Showcase academic and research excellence in aerospace innovation.
- Celebrate achievements of students, faculty, and alumni.
- Document important departmental events and collaborations.
- Empower students with knowledge of career pathways, internships, and leadership opportunities.
- Inspire the community through stories of vision, exploration, and innovation.

**"BEYOND LIMITS, ABOVE HORIZONS"**

# CHANCELLOR'S BIRTHDAY

## A Grand Celebration of Vision and Leadership – Our Beloved Chancellor Ayya Srinivasan's 80th Birthday



On October 7, 2025, our campus came alive with joy, gratitude, and admiration as we celebrated the 80th birthday of our revered Chancellor, Ayya Srinivasan — a visionary leader, a beacon of wisdom, and a guiding force behind our institution's journey toward excellence.

The event, held at the university auditorium, was graced by distinguished dignitaries, faculty members, students, alumni, and well-wishers who gathered to honor the remarkable legacy of a man whose life has been dedicated to education, innovation, and service to society. The celebration began with an invocation, followed by a floral tribute to mark the Chancellor's eight decades of extraordinary contributions.

In his inspiring address, our Chancellor Ayya Srinivasan shared reflections from his lifelong journey — emphasizing the importance of perseverance, integrity, and the power of education to transform lives. His words resonated deeply with everyone present, serving as a reminder of the values that define our institution.

As a gesture of love and respect, cultural performances by students highlighted his visionary leadership and humanitarian spirit. The event also featured a video presentation capturing memorable milestones from his journey — from the humble beginnings of the institution to its evolution into a renowned center of learning and research.

The celebration concluded with heartfelt wishes, a ceremonial cake-cutting, and the presentation of a commemorative memento symbolizing his enduring legacy. The atmosphere was filled with warmth and admiration, reflecting the profound impact Ayya Srinivasan continues to have on the entire academic community.

As our Chancellor steps into this new chapter of life, the university family stands united in gratitude — cherishing his wisdom, leadership, and the values he has instilled in generations of students. His 80th birthday not only marked a personal milestone but also celebrated a lifetime devoted to shaping the future of education.

We extend our heartfelt wishes to our beloved Chancellor Ayya Srinivasan for continued health, happiness, and many more years of inspiring leadership.

# DEPARTMENT HIGHLIGHTS

## newsletter release

The Department of Aeronautical and Aerospace Engineering proudly released the September edition of our departmental newsletter, **SkySights**, to our respected Principal on September 1st, 2025. This marks yet another milestone in showcasing the achievements, activities, and innovations from our department.



## World Space Week Celebration

The Department of Aeronautical and Aerospace Engineering enthusiastically celebrated **World Space Week 2025** from **October 6th to 11th, 2025**. The celebration highlighted global advancements in space science and technology, engaging students through awareness sessions, space-themed activities, and interactive displays to inspire future innovators in the aerospace field.



## ISRO SPACE EXPO 2025

As part of the celebrations, **the ISRO Space Expo 2025** was jointly hosted in collaboration with **ISRO Mahendragiri** from **October 9th to 11th, 2025**. The expo witnessed an **overwhelming participation of 22,000+ students**, featuring live demonstrations, rocket and satellite displays, and discussions with space experts, providing invaluable exposure to India's growing space ecosystem.

The ISRO Space Expo also acts as a bridge between scientific institutions and the public. It encourages young students to dream about careers in space technology and research. Many innovative displays show the journey of a satellite from design to launch and operation in space.

Visitors get hands-on experience with interactive space models, simulation screens, and virtual launch activities. Experts and ISRO scientists often guide students and explain how rockets, satellites, and space missions work in real life. Special video presentations on missions like Chandrayaan, Mangalyaan, and Gaganyaan help the audience understand India's achievements in space.



**\*World Space Week 2025\* kicked off grandly at \*Dhanalakshmi Srinivasan University, Perambalur\*! 🌍🌟**

**Jointly organized by \*ISRO\* and \*DSU\* under the theme \*‘‘Living in Space’’\*, the \*Space Expo 2025\* showcases India’s pride in space technology — from \*PSLV, GSLV, Aditya, Chandrayaan-2, Mangalyaan\* to \*Reusable Launch Vehicles\*.**

**🎓 Inaugurated by our Honorable Chancellor \*Thiru. A. Srinivasan Ayya\***

**🗣️ Special guests: \*Perambalur District Collector Mrs. Mirunalini\*, \*ISRO TN Director Mr. Asir Bhakiyaraj\*, and \*Former ISRO Director Mr. Alaguvel\***

**🚀 Over \*60 space exhibits\* and \*ISRO tech models\* inspiring future scientists!**

**👤 More than \*15,000 students\* expected to explore over 3 days!**



# STUDENT INTERN'S JOURNEY AT SDSC SHAR



Key takeaways from his immersion at SHAR include:

- \* **Applied Aerospace Knowledge:** Directly applying concepts of propulsion and structural integrity to real-world components destined for space.

- \* **Exposure to Cutting-Edge Technology:** Gaining insight into the rigorous testing standards and state-of-the-art facilities required for mission success.

- \* **Commitment to Excellence:** The certificate noted that his "character and conduct were found to be Very Good," a testament to the dedication required at ISRO.

This experience reinforced the precision and commitment necessary to maintain India's standing in the global space community.

**Spotlight on SHAR Operations: The SMP & ETF Facility**

The facility where Mr. Althwaf trained, the Solid Motor Performance & Environmental Test Facilities (SMP&ETF), is a technological cornerstone of SDSC SHAR.

We're thrilled to share an inspiring dispatch from Satish Dhawan Space Centre (SDSC) SHAR, India's premier Spaceport! This newsletter focuses on the incredible experience of a student intern and sheds light on the critical operational unit where he trained: the Solid Motor Performance & Environmental Test Facilities (SMP&ETF).

**A Month of Discovery: Intern's Experience at the Spaceport**

We celebrate Mr. Althwaf S (Reg. No.: 810422110003), a B.E./B.Tech-IV student in Aerospace Engineering from Dhanalakshmi Srinivasan Engineering College (Autonomous), for successfully completing his one-month internship at SDSC SHAR.

Mr. Althwaf underwent Internship Training in Solid Motor Performance & Environmental Test Facilities (SMP&ETF) from September 17, 2025, to October 15, 2025. His project culminated in the submission of a report titled "Study and Comparison of Test Facilities in SMP&ETF".

> **The Training Highlight:** This intensive program offered an unparalleled, hands-on experience in the heart of India's space program. Mr. Althwaf's work focused on understanding and comparing the meticulous processes and advanced equipment used to qualify the solid rocket motors that power our launch vehicles.

## ACHIEVEMENTS FROM HEAD OF THE DEPARTMENT

We are very happy to share that SAEISS Trichy Division received the best New Division award. Dr Katherasan Duraisamy received the award on behalf of Trichy Division. We thank our Honorable Chancellor Ayya, Principal, VP, CoE & Year Coordinators for their support.



Our Head of Department proudly received the Certificate of Participation for the ISRO Expo 2025 from the esteemed ISRO Chairperson. This recognition highlights the department's active involvement and contribution to promoting space research awareness and innovation among students, strengthening our collaboration with India's premier space organization.



# DEPARTMENT SPOTLIGHT

## Achievements

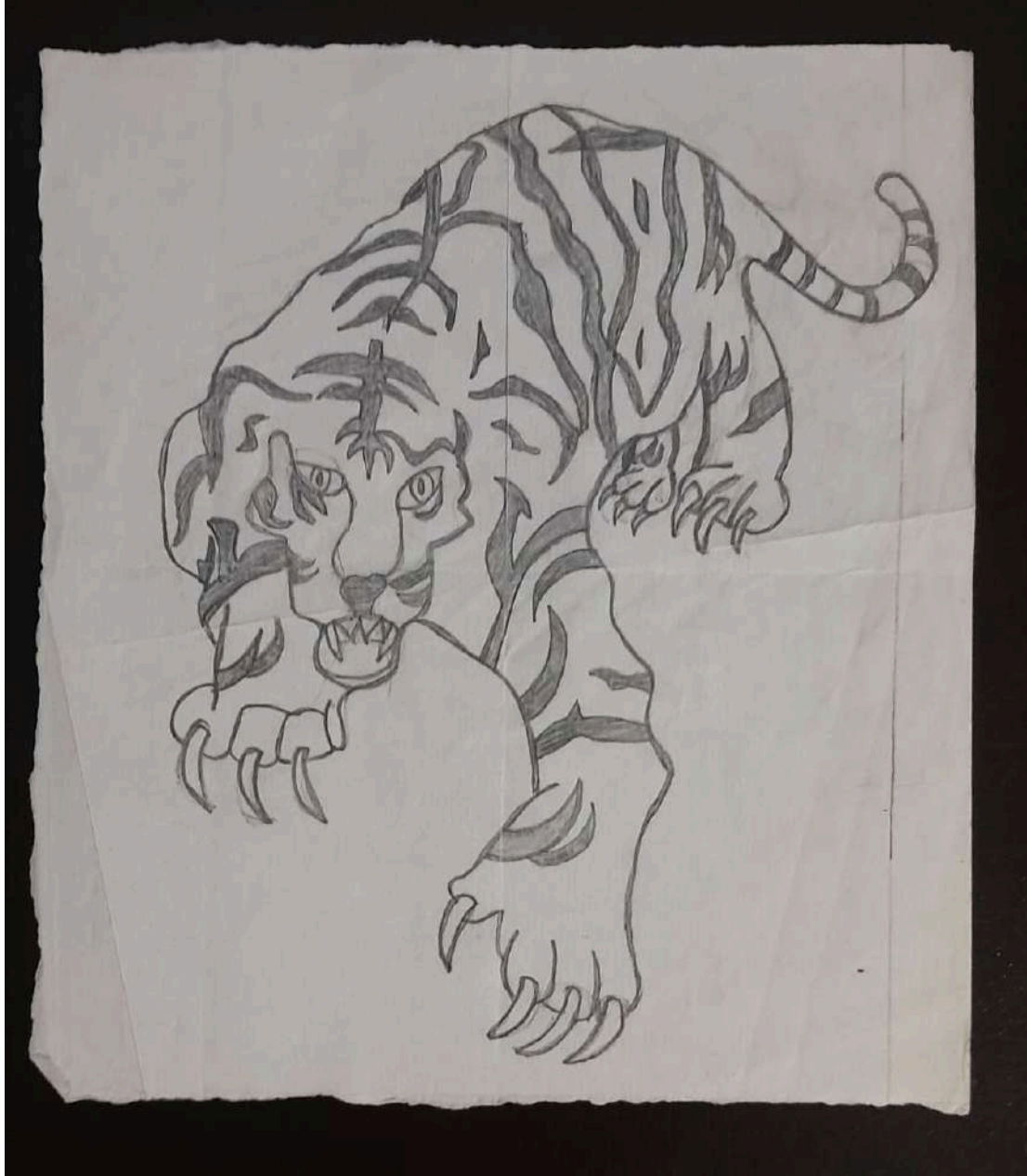
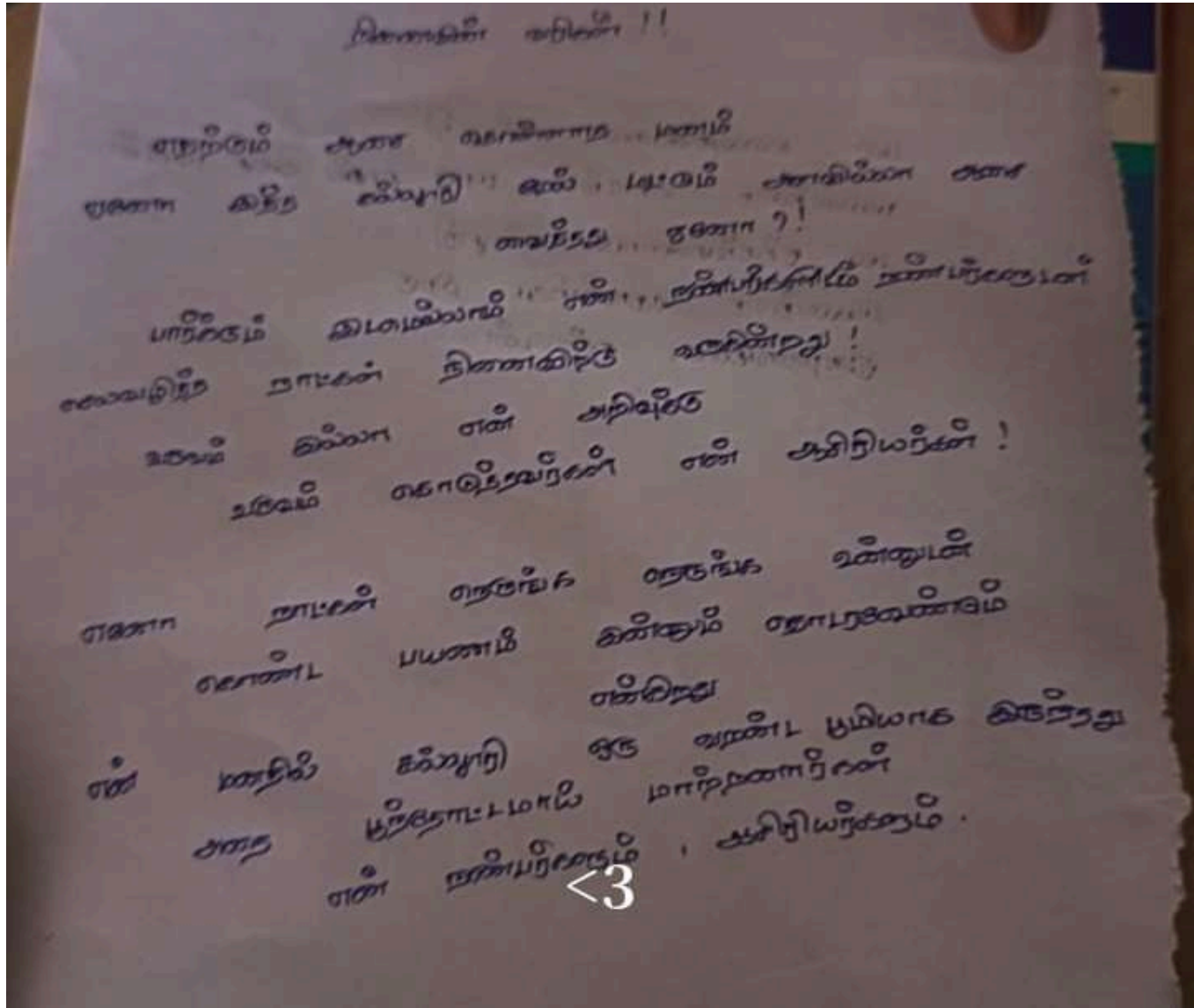
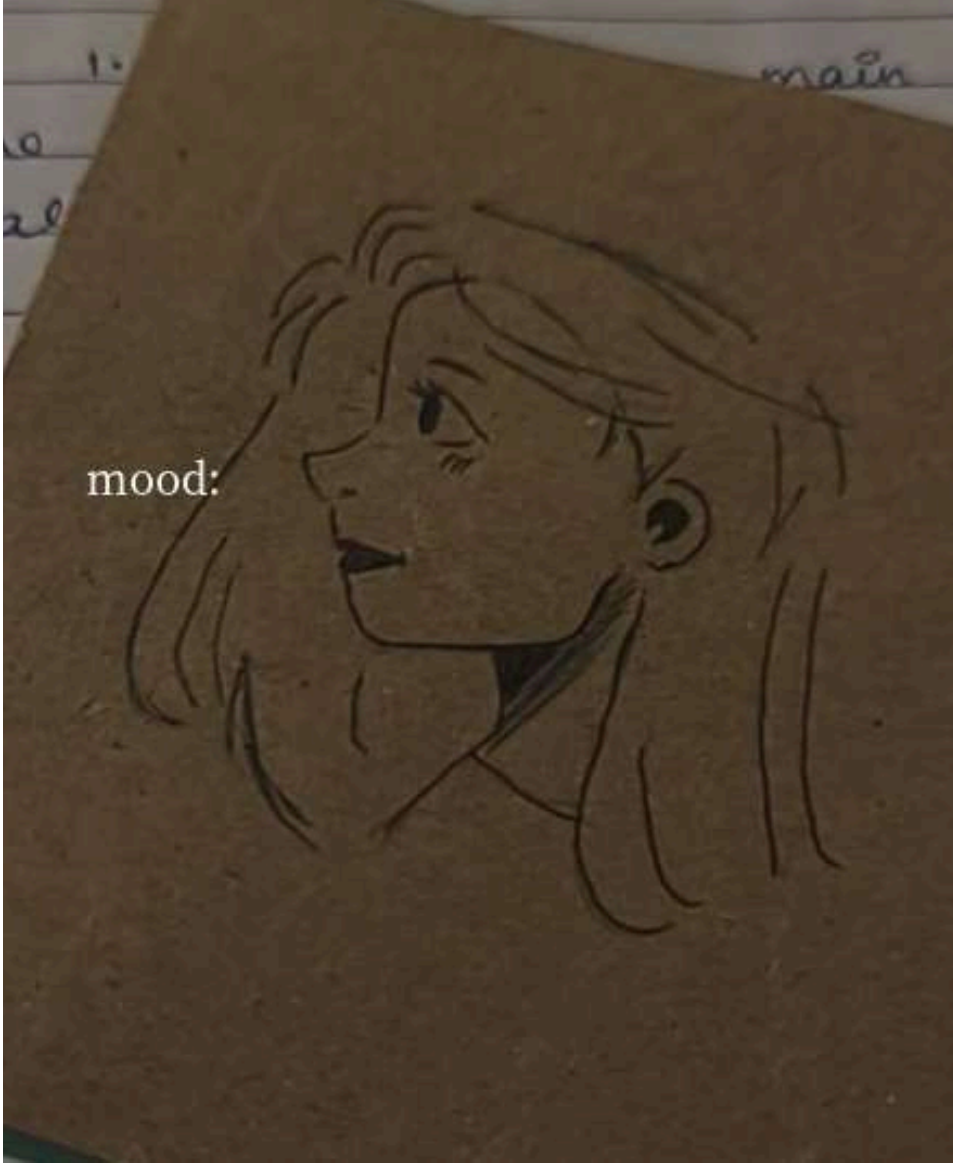
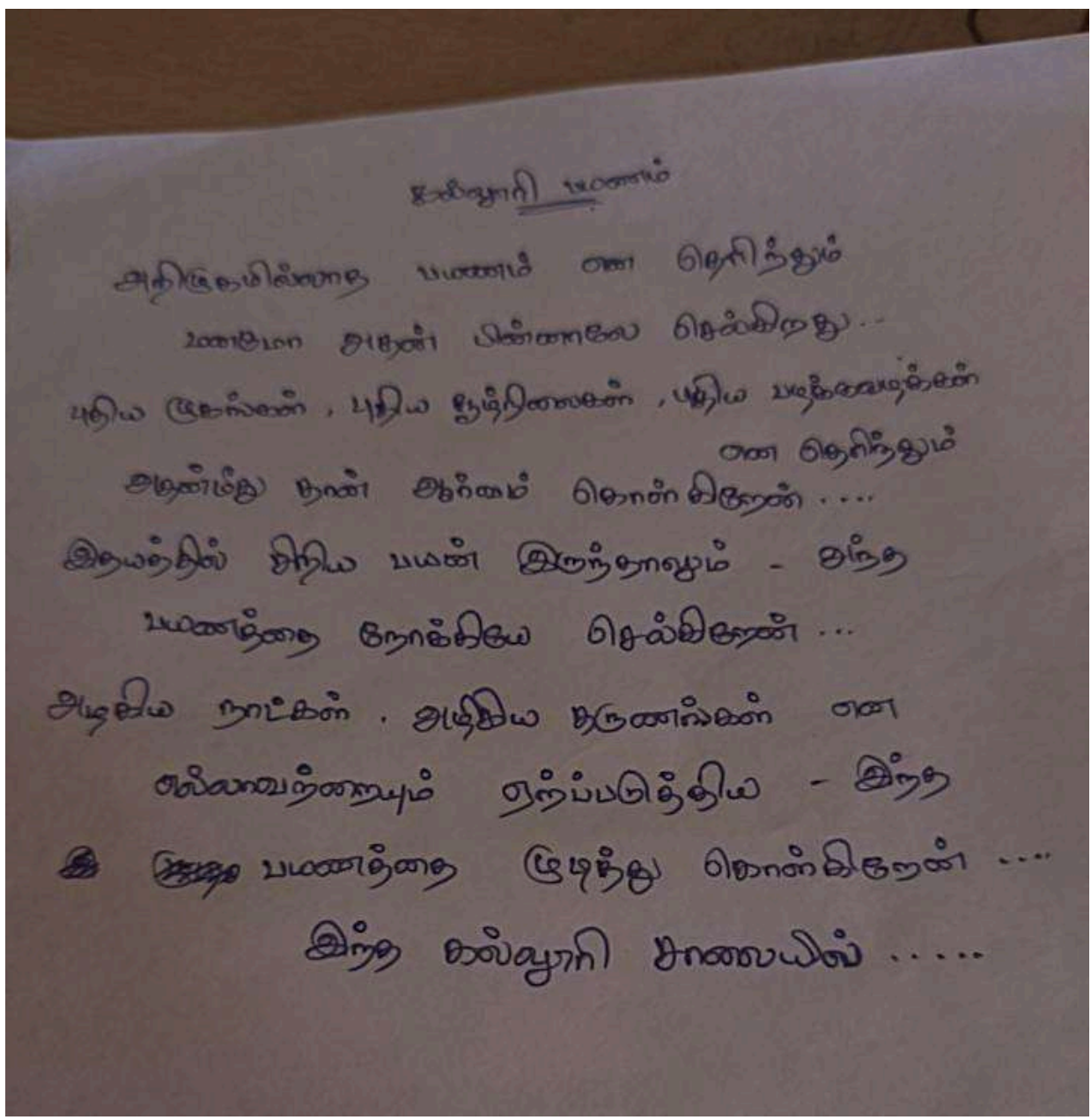
Our department joyfully celebrated Ayudha Pooja 2025 with great devotion and enthusiasm. The event began with traditional rituals, honoring the tools, machines, and instruments that support our academic and research activities. Faculty, staff, and students came together to offer prayers, share sweets, and celebrate unity and gratitude.



# CRAFTED WITH PRECISION

Our final year students GAYATHRI.S and SANGEETHA.G has showcased his creative talent beyond the world of aeronautics by penning a beautiful poem. His writing reflects imagination, emotion, and artistry, proving that engineering minds can also craft powerful words.

final year student Arul murugan M and priyanka P showcased his artistic talent through detailed drawings, reflecting imagination, precision, and creativity.



## ALUMINI CONNECT



I am **Karthikeyan** and i joined **BE Aerospace engineering at DSEC in 2020**, right in the middle of the Covid lockdown. Most of our early classes were online, but once the college opened, I made some amazing friends and started enjoying college life. Life became more adventurous From making a **model rocket on Independence Day to building a rover for the Project Expo and celebrating our first cultural, Nakshatra**, we created so many memories together.

We went many internships and at our final year we enjoyed to the core. My department always stood out with supportive and friendly staff, which made learning more enjoyable.

In my 3rd year, I attended a workshop at MIT Chennai where I met one of our alumni, and her guidance inspired me to prepare for PG. I **cleared TANCET** and got a seat in **M.E. Aerospace Technology at MIT**. Looking back, I feel grateful for all the fun, learning, and support I had at DSEC.

**Aim high, be active in every group activities, never settle less!**



I am **Yogachandran k** and i joined **BE Aeronautical engineering at SEC in 2019**, right in the middle of the Covid lockdown. Most of our early classes were online, but once the college opened, I made some amazing friends and started enjoying college life. Life became more adventurous From making a **fighter jet on Independence Day to building a mars rover for the Project Expo and celebrating our first cultural, Nakshatra**, we created so many memories together.

We went many internships and at our final year we enjoyed to the core. My department always stood out with supportive and friendly staff, which made learning more enjoyable.

In my 3rd year, I attended a workshop at IIT Chennai where I met one of our ultra mars rover, and her guidance inspired me to prepare for my carrier. Looking back, I feel grateful for all the fun, learning, and support I had at DSEC.

**Aim high, be active in every group activities, never settle less!**

## CONCEPT OF THE MONTH

### Aerodynamic Forces on an Aircraft

When an aircraft moves through air, four main aerodynamic forces act on it:

1. **Lift** – the upward force that keeps the aircraft in the air.
2. **Weight (Gravity)** – the downward force pulling it towards Earth.
3. **Thrust** – the forward force produced by engines/propellers.
4. **Drag** – the resistance force opposing motion through the air.

## THRUST

Thrust is the force that pushes or pulls an object in a specific direction. According to Newton's Third Law of Motion, "For every action, there is an equal and opposite reaction."

In propulsion systems, gases are expelled at high speed in one direction, and as a reaction, the vehicle moves in the opposite direction.

## Significance of THRUST

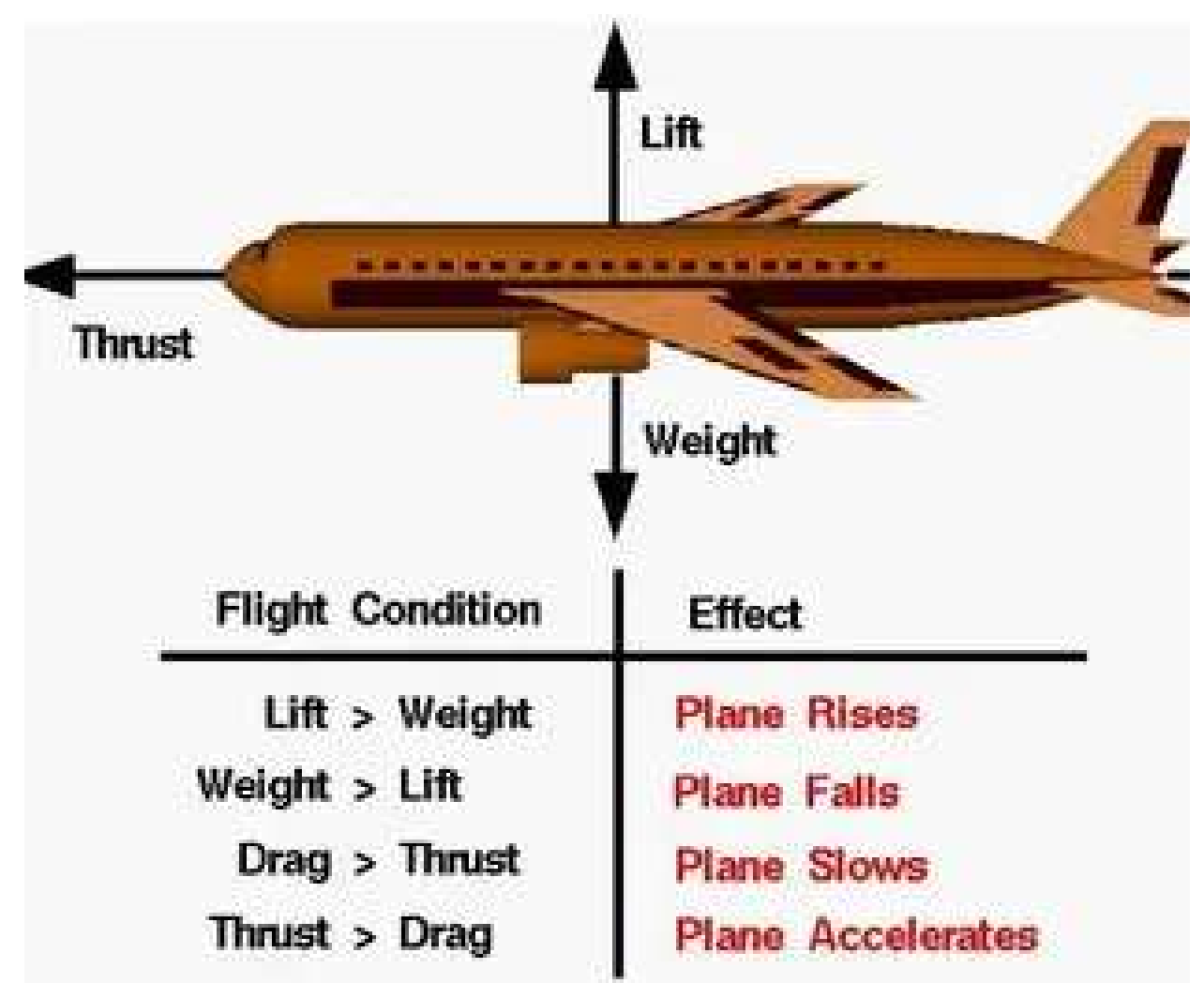
Thrust is the force that allows aircraft to overcome drag and move forward. In rockets, it overcomes gravity to launch into space. Engineers study and optimize thrust to achieve better fuel efficiency, higher speeds, and improved performance for different flight missions.

## Types of THRUST

1. **Jet Engine Thrust:** Produced by high-speed exhaust gases expelled from a turbine engine.
2. **Propeller Thrust:** Generated by rotating blades that push air backward to move the aircraft forward.
3. **Rocket Thrust:** Created by expelling high-pressure gases from fuel combustion, allowing motion even in space where there is no air.

## Factors Affecting THRUST

1. **Air density:** At higher altitudes, air becomes thinner, reducing engine thrust.
2. **Speed:** As the vehicle moves faster, the relative exhaust velocity decreases, affecting thrust.
3. **Temperature and pressure:** They influence air density and fuel combustion efficiency.
4. **Engine design:** The nozzle shape, compressor efficiency, and fuel type play vital roles in determining thrust output.



## FUN HANGER

### DID YOU KNOW?

- Dr. A.P.J. Abdul Kalam, known as the “Missile Man of India,” began his career at ISRO and played a key role in developing India’s first satellite launch vehicle, SLV-3, which put Rohini Satellite into orbit in 1980.
- Aircraft wings are designed with a special shape called an airfoil. The air moves faster over the curved top than the flat bottom, creating lift that helps the plane fly.



- SpaceX’s Falcon 9 changed space history by landing its boosters back on Earth safely — saving millions and making space travel more sustainable.
- It takes a spacecraft about 3 days to reach the Moon from Earth, traveling at roughly 39,000 km/h!

### FUN FACTS

- Even squids and jellyfish use a natural form of thrust! They push water out of their bodies to move forward—nature’s own jet propulsion.
- Unlike rockets, jet engines need air to create thrust. That’s why rockets can work in space—but jets cannot!
- Tiny drone propellers create thrust by spinning fast and pushing air downward—so the drone lifts up in the opposite direction.

### QUICK RIDDLE

I’m thin but I decide whether  
you soar or stall;  
a tiny skin that clings then  
peels at your call.  
I hide in velocity, whisper in  
roughness and curve —  
tame me for smooth lift, lose  
me and you’ll swerve.  
What am I?

Answer: **BOUNDARY LAYER**

## Airlines Face \$11 Billion Turbulence!

The IATA reported that global airlines could lose over \$11 billion in 2025 due to supply-chain delays and maintenance backlogs. Older jets stay grounded longer, and repair costs soar — a major challenge for the aviation industry worldwide.



## IIT-M Tests Hybrid Rocket for VTOL Landings

IIT Madras achieved a milestone by testing a hybrid rocket thruster capable of vertical soft landings for UAVs and VTOL systems — a breakthrough toward next-generation hybrid propulsion in aerospace.



## TASE Global Takes Off with \$30 Million Boost

Chennai-based TASE Global announced a \$30 million expansion, including a U.S. acquisition and a major facility upgrade near Chennai. This move strengthens India's role in global aerospace manufacturing and exports.



## DGCA wants stronger oversight amid booming aviation market

India's DGCA chief called for increased staffing and stricter safety oversight as commercial flights grow rapidly and new airlines emerge. Safety lapses and investigations following recent accidents have amplified the need.

