



DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE (AUTONOMOUS)

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SKYSIGHTS



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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 Sir**, 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 Sir**, 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.

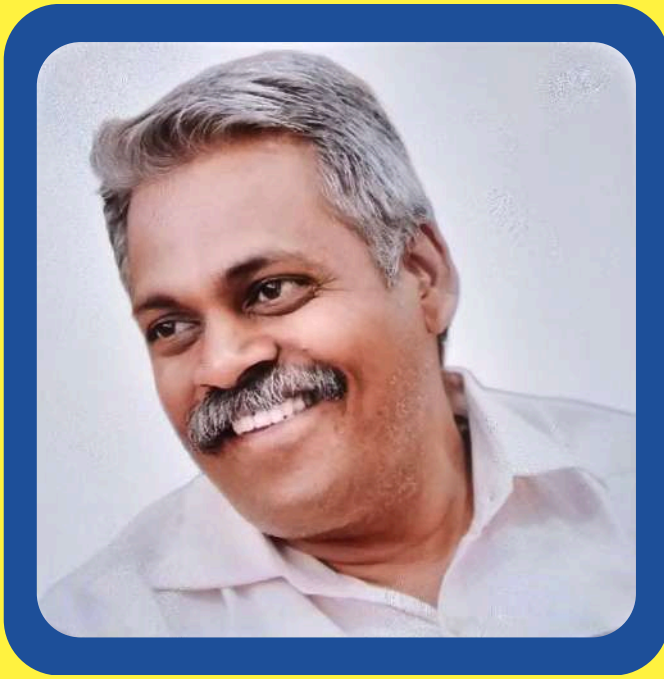
A special note of appreciation is due to **our alumni**, who continue to inspire us with their achievements and contributions. Their valuable inputs and guidance enrich this newsletter, while also motivating current students to aspire higher in their academic and professional journeys.

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"

DEPARTMENT HIGHLIGHTS

Placement training

Final-year Aeronautical and Aerospace students underwent an intensive 15-day Placement Training Program from 11th August to 26th August 2025. The program focused on enhancing **technical knowledge, aptitude, reasoning, communication, and interview skills** to prepare students for core and interdisciplinary industries. Sessions included mock interviews, group discussions, technical problem-solving, and resume-building workshops, ensuring students gained the confidence and skill set required to excel in upcoming recruitment drive



Placement Training (11th Aug 2025 – 26th Aug 2025)

Reopen day

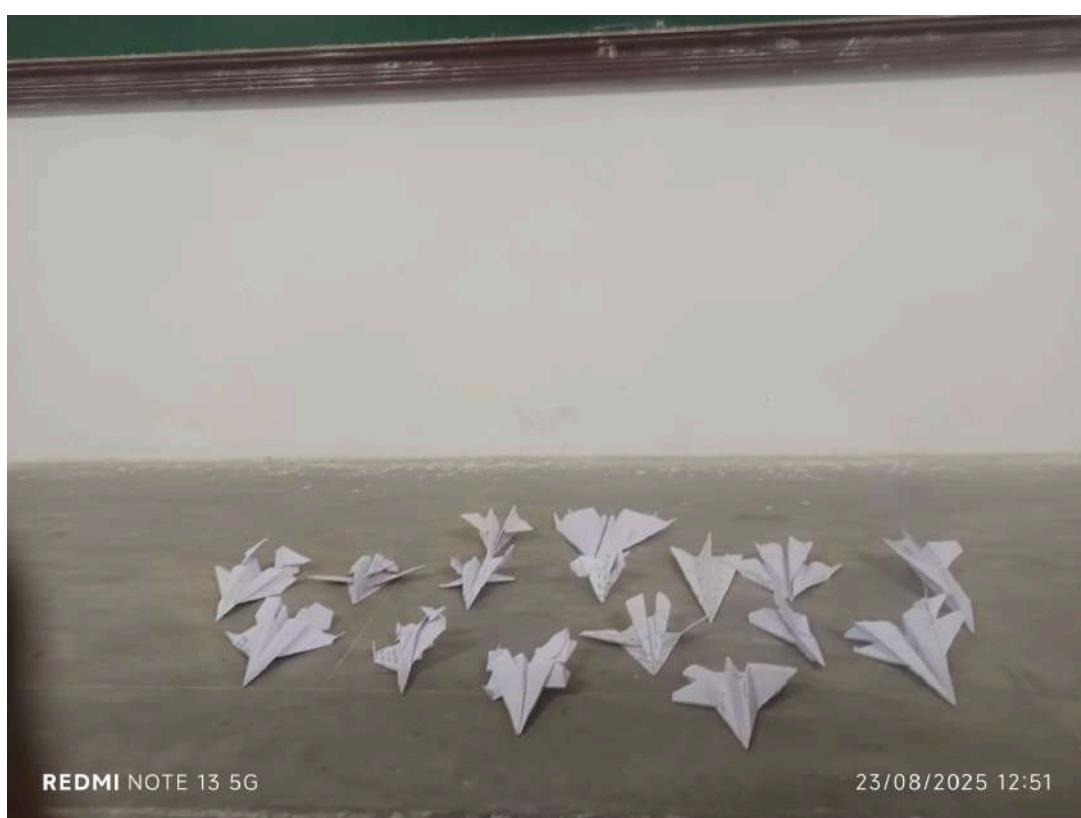
The Department of Aerospace and Aeronautical Engineering reopened on 8th August 2025 for the 2nd and 3rd year students. The reopening marked the start of a new academic semester filled with renewed enthusiasm, innovative projects, and collaborative learning. Faculty members encouraged students to set higher goals for both academics and co-curricular activities, ensuring a productive and inspiring semester ahead.



SPACE DAY

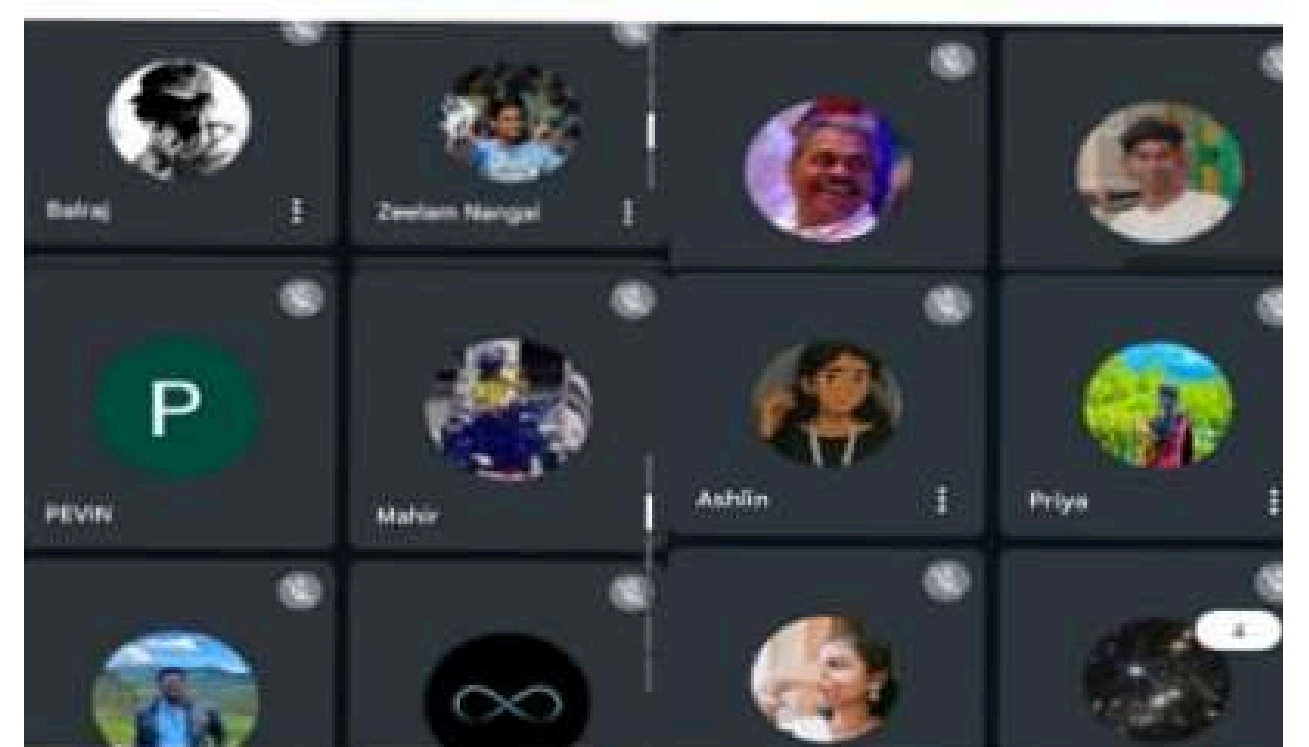
We are very happy to share that
We have celebrated National Space Day on
today (August 23) & conducted the
following events

- Paper plane Design contest
 - Quiz
 - SEP on Recent Developments in Aerospace
- around 60 students were participated



WEBMINAR

We're thrilled to announce the successful
conduct of a webinar on **8** on August 12,
2025. Our esteemed resource person, **Dr. M.
Uthayakumar, Professor at Amrita Vishwa
Vidyapeetham, Kollam**, shared his expertise
with 56 students and 5 faculty members
from our department.



INDEPENDENCE DAY CELEBRATION

Independence Day celebration was held at Dhanalakshmi Srinivasan Group of Institutions on August 15 in a grand manner. Various dance performances were performed by different institution students.



In particular the students of Dhanalakshmi Srinivasan Engineering College(Autonomous) won IInd prize in dance performance. We are happy to say that the students of our Aeronautical and Aerospace Department namely **Harani, Swathy, Priyadarshini, Ashlin Aathira** performed and showcased their talent.



Staff Achievements

"Faculty Development Program Participation"

We are happy to share that **Mr S Athisayaraja AP** had attended Training of Trainers Program on **innovative Pedagogy & Leadership Skills for the Industry 4.0 Era** conducted by National Institute of Technical Teachers Training & Research Chennai at Dhanalakshmi Srinivasan University, Tiruchy from July 28 to August 1.

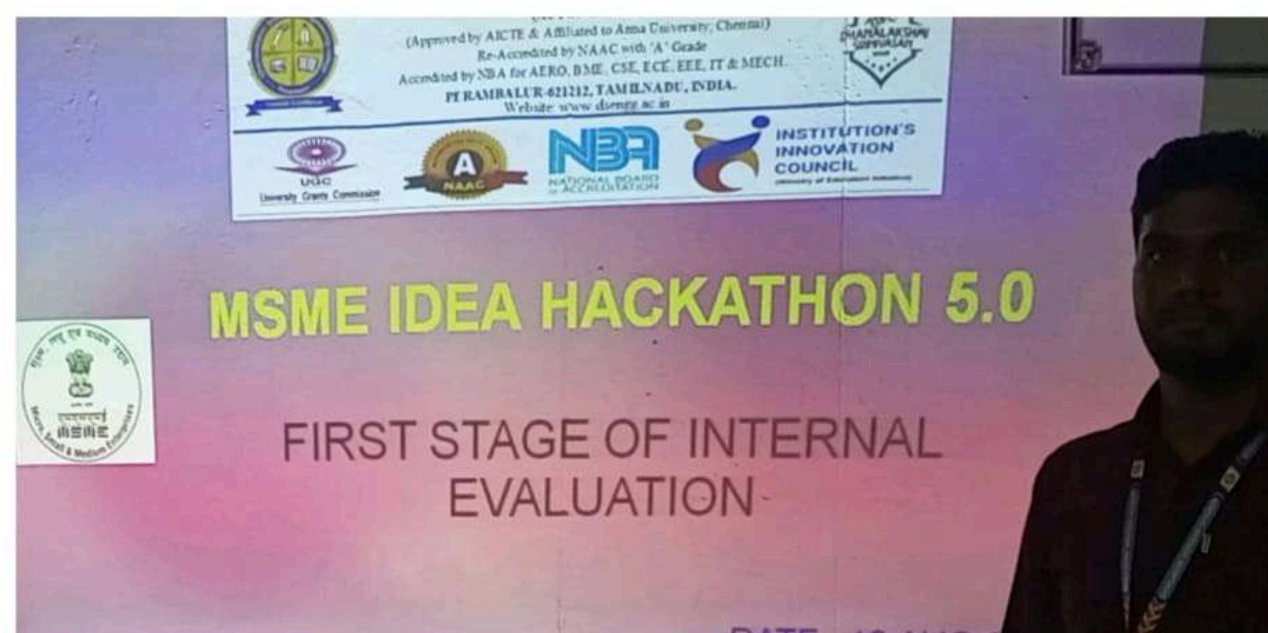


"Faculty Recognition as Reviewers"

We are happy to share that **Dr Katherasan Duraisamy** has acted as reviewer for the **Essay Writing Competition in Industry Academia Conclave 2025** (23rd August) organized by **Boeing India Company & The AeSI** (The Aeronautical Society of India), Chennai Branch.

"Faculty Recognition as Evaluuator"

We are happy to share that **Dr Katherasan Duraisamy** acted as Internal Evaluator for **MSME Idea Hackathon 5.0 Phase 1 Internal Evaluation** for DSU-Perambalur at CNC LAB on August 12, 2025 (11am -12.15pm)

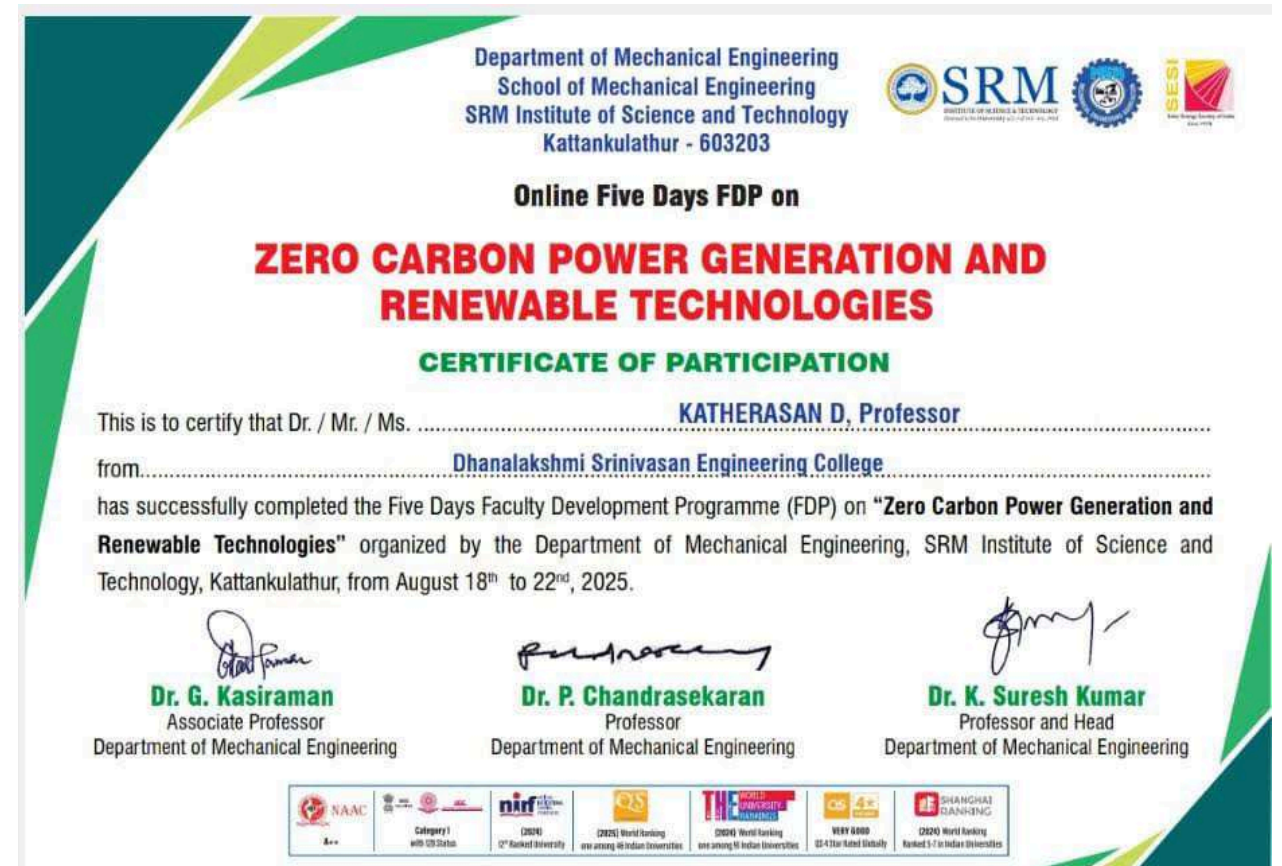


ACHIEVEMENTS FROM HEAD OF THE DEPARTMENT

We are happy to share that **Dr Katherasan Duraisamy** Professor & Head Department of AE&AS had conducted awareness session on 29/8/25 (10 am - 11am) @SAE. 50 students are participated



We happy to share that Dr Katherasan Duraisamy had attended Online Five Days FDP on **ZERO CARBON POWER GENERATION AND RENEWABLE TECHNOLOGIES** organized by the Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur, from August 18th to 22nd, 2025.



STUDENTS SPOTLIGHT

Achievements

We very glad to share that our Aeronautical final year Student **Mr J Ameer Hussain** got medal & the **4th rank** in **Mr TamilNadu As Classic - 2025** organized by **Indian Fitness Federation**



Internship

Final-year students of the department successfully completed a one-month internship at **AeroIn Company**, gaining hands-on exposure to satellite technology. They then participated in the design of the satellite frame, applying CAD tools for structural optimization, and later 3D printed the frame, experiencing the transition from digital model to physical prototype. The internship provided valuable practical skills in design, fabrication, and systems engineering, bridging the gap between academic knowledge and industry applications.

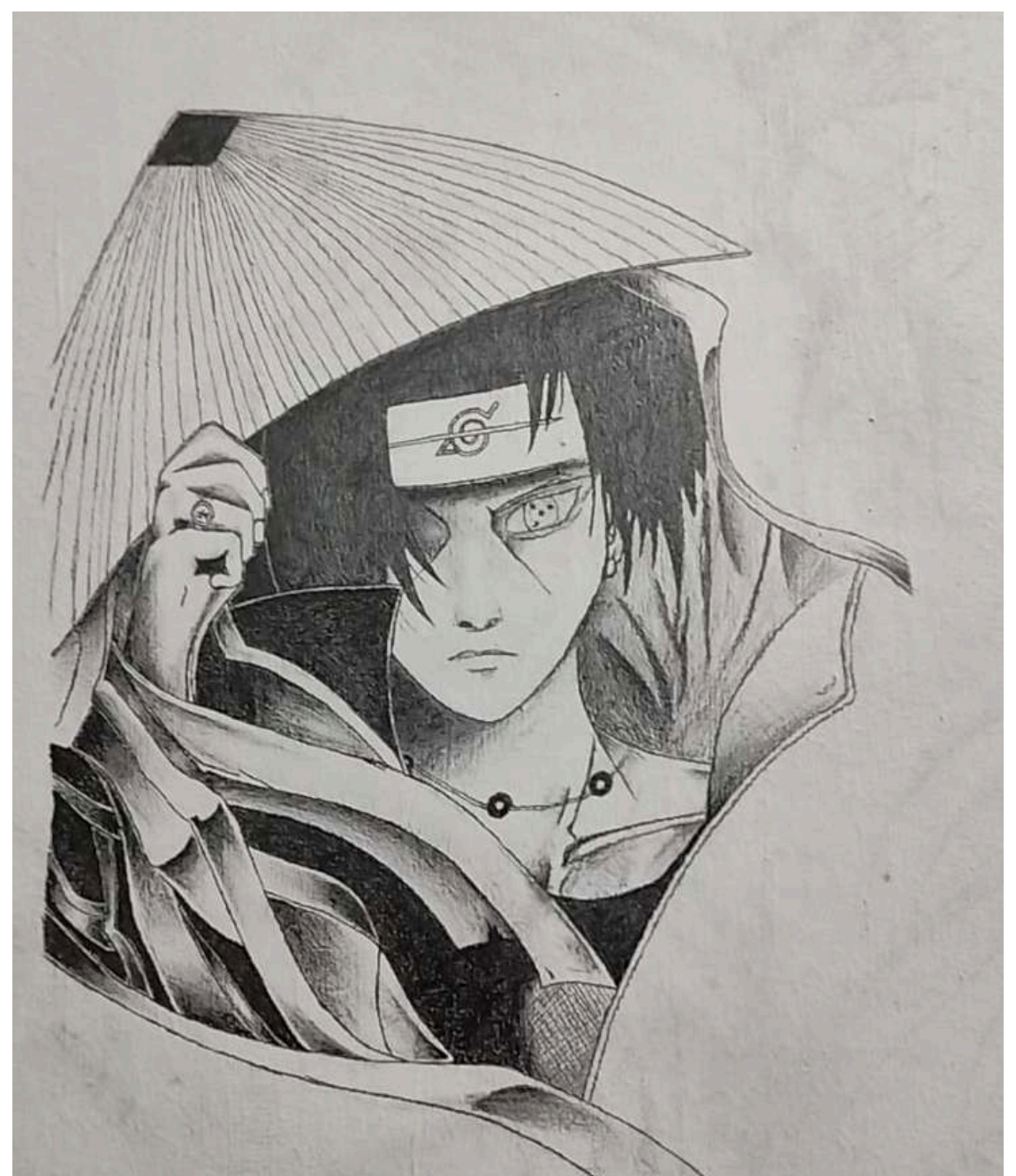


CRAFTED WITH PRECISION

Our final year students Chandru J and Abikaran M showcased their creativity by crafting intricate pencil carvings, blending patience with artistry.



Final year student Chandru J showcased his artistic talent through detailed drawings, reflecting imagination, precision, and creativity.



ALUMINI CONNECT



I am **Jones Dharmaraj**, a **2024 graduate in Aerospace Engineering**. My journey so far has taken me through roles in UAV design, drone systems, and aerospace training, working with organizations like **Wings of Aero, Raphael Drones, and Next Leap Aeronautics**.

Each step has helped me grow from classroom concepts to real-world applications—whether it was building a flapping wing UAV, simulating launch vehicles, or training students under state initiatives.

Some of **my best memories** are the late-night project discussions and teamwork that shaped both my technical and personal growth.

To my juniors, I would say—stay curious, take every project as a learning opportunity, and don't be afraid to explore beyond textbooks. Every small effort compounds into a big leap in your career.



I am **Muhammad Abdullah K** an Aerospace Engineer driven by a deep passion for design, analysis, and research in cutting-edge aerospace technologies. My expertise spans Computational Fluid Dynamics (CFD), thermal analysis, structural engineering, and advanced design tools like CATIA V5, Fusion 360, and Ansys. I specialize in solving complex engineering challenges and contributing to innovative aerospace initiatives.

Currently, I am a Project Associate at AeroIn Space Tech Pvt. Ltd, where I lead and contribute to R&D efforts for Small Lift Launch Vehicles (SLLVs). By combining technical proficiency, creative problem-solving, and a collaborative mindset, I strive to advance aerospace engineering and deliver impactful results.

Previously, I worked at Wings of Aero in dual roles as a Technical Content Writer and Technical Trainer. As a content writer, I authored insightful review articles on CFD-related topics, demonstrating my ability to articulate complex engineering concepts. In my role as a trainer, I conducted workshops on the Space Technology and educated students at schools and colleges, igniting a passion for aerospace among the next generation of engineers

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.

LIFT

Lift is the **upward aerodynamic force that allows an aircraft to rise and stay in the air.**

It acts perpendicular to the relative airflow (not always vertical, but perpendicular to flight direction).

Without lift, an aircraft would never leave the ground.

How Lift is Generated

Lift is produced mainly by the wings (airfoils). There are two simple but complementary explanations:

a) Bernoulli's Principle (Pressure Difference)

- The wing is shaped so the top surface is curved and the bottom surface is flatter.
- As air flows over the wing:
 - The air on top travels faster → lower pressure.
 - The air on bottom is slower → higher pressure.
- The pressure difference creates an upward force → Lift.

☞ Think of it like air being “sucked up” over the wing because of low pressure.

b) Newton's Third Law (Action–Reaction)

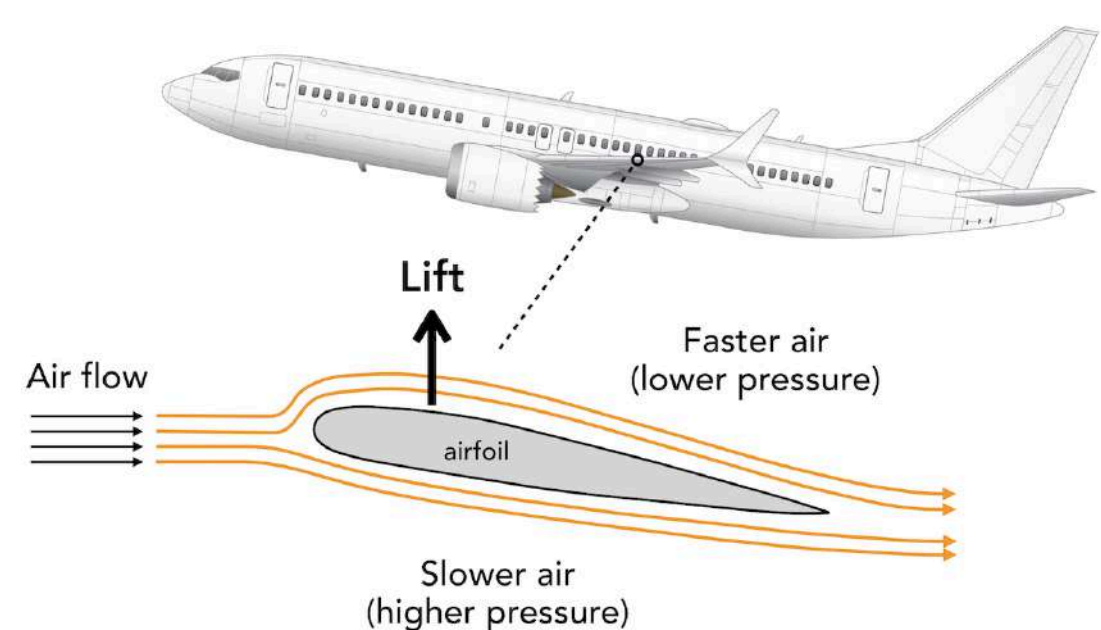
- The wing pushes air downward (downwash).
 - By Newton's law, the air pushes the wing upward.
 - This upward reaction force = Lift.
- ☞ Think of it like bouncing a ball off the ground → ground pushes back up.

Factors Affecting Lift

The amount of lift depends on several key things:

- **Wing Shape (Airfoil Design):** Curved top and flat bottom help pressure difference.
- **Angle of Attack (AoA):** The angle between the wing and the airflow.
 - Small AoA → small lift.
 - Moderate AoA → maximum lift.
 - Too high AoA → airflow separates → stall (sudden loss of lift).
- **Air Speed:** Faster air = more lift (why planes need runways).
- **Air Density:** Denser air (low altitude, cold weather) gives more lift than thin air (high altitude, hot weather).
- **Wing Area (Size):** Larger wings = more lift (why gliders have long wings).

How airplanes fly



FUN HANGER

DID YOU KNOW?

- The fastest passenger plane, Concorde, could fly twice the speed of sound.



- The Antonov An-225 (world's heaviest aircraft) could carry 6 helicopters inside it.



- Astronauts grow 5–6 cm taller in space since their spine expands without gravity pressing it down
- Satellites in low orbit see 16 sunrises and sunsets every day.

FUN FACTS

- A hummingbird has a faster wingbeat than many drones! (up to 80 beats per second)
- The International Space Station is the most expensive object ever built—over \$150 billion.
- A paper airplane holds the world record of flying 69 meters indoors—that's nearly the length of a football field!

Think, Scan, Fly – Crossword Edition



SpaceX's Reusable Starship Success

SpaceX achieved a major milestone on 26 August 2025, with the successful splashdown of Starship S37 in the Indian Ocean following a 66-minute suborbital flight. This test featured enhancements like a reinforced heat shield and a satellite deployment module—paving the way for cost-effective, reusable spacecraft.



India–Japan Collaboration on Chandrayaan-5

India and Japan have launched an ambitious joint lunar mission—Chandrayaan-5—targeting the Moon's south pole. Signed during Prime Minister Modi's visit to Japan, the mission aims to explore water ice deposits and early solar system history, representing a big leap in international space cooperation.



India's First AI-Powered Combat Drone: Kaala Bhairav

Unveiled on 22 August 2025 in Bengaluru, “Kaala Bhairav” is India's first indigenous AI-powered MALE combat drone. Developed by Flying Wedge Defence and Aerospace, it boasts a 30-hour flight endurance and offers swarm strike capabilities at a fraction of the cost of its Western counterparts.



HAL–GE Collaboration on Jet Engine Production

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