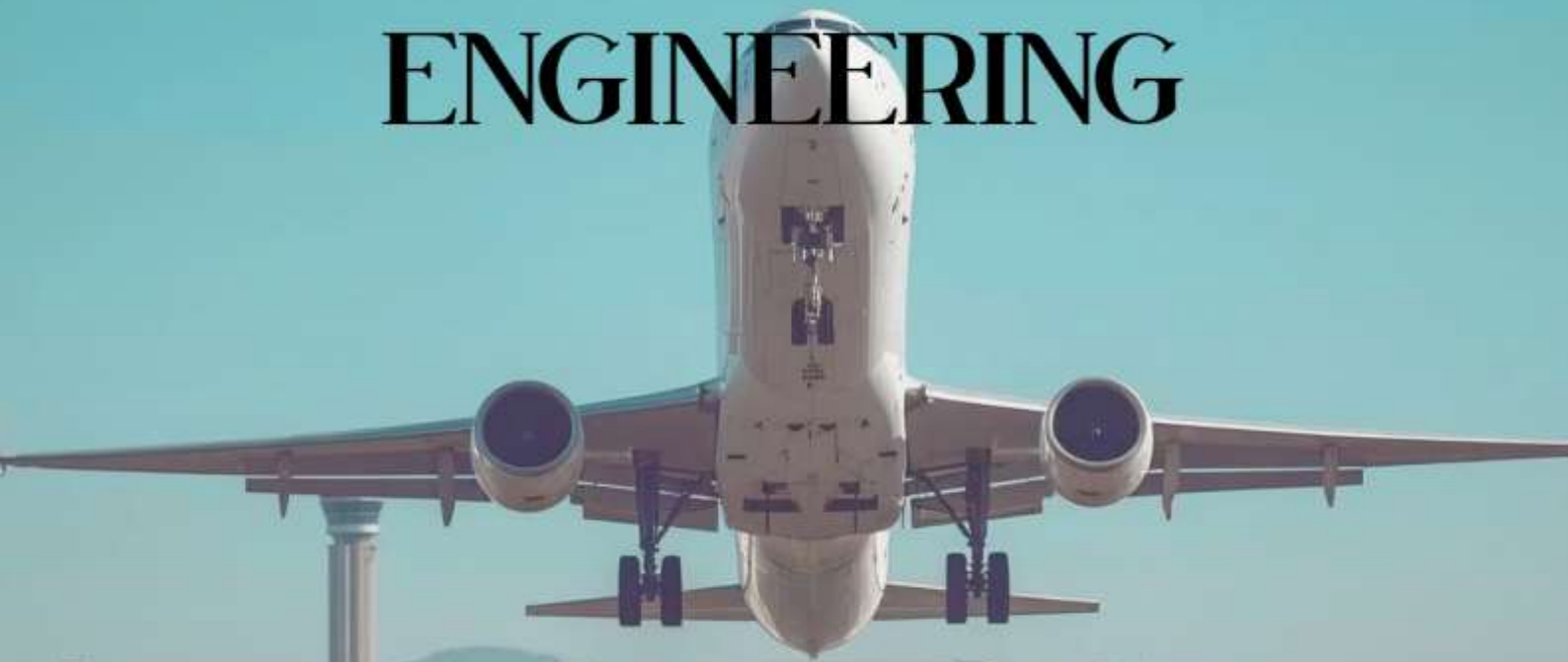




ACS COLLEGE OF ENGINEERING

DEPARTMENT OF
AERONAUTICAL
ENGINEERING



DEPARTMENT MAGAZINE FOR
ACADEMIC YEAR 2024-25

WORDS OF WISDOM

CHAIRMAN'S MESSAGE



Dr. A.C. Shanmugam

The Aeronautical Engineering Department has consistently demonstrated growth, both in academics and research. Education here is not just about learning concepts but about building confidence and vision for the future. I am proud of the enthusiasm shown by our faculty and students, who have actively engaged in innovation and technical activities. This magazine reflects their creativity, hard work, and achievements. I hope it inspires every student to aim higher and to use knowledge responsibly for the progress of the nation and humanity.

PRINCIPAL'S MESSAGE

It gives me great pleasure to share a few thoughts through this magazine. At ACSCE, we are committed to nurturing young minds with knowledge, skills, and values that prepare them for the future. The Aeronautical Engineering Department has been a symbol of innovation and dedication, offering students opportunities to explore beyond classrooms through projects, research, and industry exposure. I encourage students to embrace curiosity, teamwork, and creativity as they strive for excellence. With the guidance of our experienced faculty and state-of-the-art facilities, I am confident that our students will soar high and contribute to society and the aerospace industry with distinction.



Dr. Anandthirtha.B.Gudi
(B.E., M.E., Ph.D)

HOD'S MESSAGE



Dr. G. Ramanan,
Head of the department

It is a privilege to present this magazine that showcases the talent, achievements, and spirit of our Aeronautical Engineering students. Our department, with its modern labs, experienced faculty, and active industry collaborations, provides the right platform for students to grow as future aerospace professionals. This magazine is a reflection of their dedication and innovative spirit. I encourage students to continue exploring new horizons, take up challenges, and uphold the values of discipline and excellence. Together, let us keep flying towards greater heights.

FLIGHT LOG

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EDITORIAL NOTE

It is a pleasure to present this edition of the Department of Aeronautical Engineering magazine. This publication reflects the creativity, talent, and achievements of students, highlighting technical insights, innovative projects, and imaginative expressions.

Through this magazine, we aim to capture the spirit of exploration and excellence that defines our department. It serves not only as a record of accomplishments but also as a source of inspiration for all students to pursue knowledge, innovation, and personal growth.

We hope this edition informs, motivates, and celebrates the passion and dedication of the student community.

– *Editorial Team*

CHIEF EDITOR:

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ASSOCIATE EDITORS:

*Kavya V K (1AH23AE023),
Guru Prasad M (1AH23AE017)
Krish Dev (1AH23AE024)*

ABOUT THE AERONAUTICAL DEPARTMENT

The Department of Aeronautical Engineering at ACS College of Engineering, established in 2010, is dedicated to shaping future aerospace professionals. The program blends theoretical knowledge with practical learning, offering students exposure to aerodynamics, aircraft structures, propulsion, UAVs, avionics, and flight systems.

With well-equipped laboratories, simulators, and project-based learning, students gain hands-on experience that complements their classroom studies. The department emphasizes innovation, teamwork, and problem solving, preparing students to meet the challenges of the aerospace industry confidently.

Our graduates have successfully taken up opportunities in leading organizations such as HAL, ISRO, DRDO, Boeing, and Airbus, showcasing the department's commitment to quality education and professional excellence.

Being part of the Aeronautical Engineering Department is not just about academics it's about exploring ideas, building skills, and reaching new heights in aviation and aerospace.



DEPARTMENT HIGHLIGHTS AY-2024-25

1. WORKSHOPS AND TRAINING PROGRAM

Skill Development Program for Young Engineers – Orientation

An orientation program guided young engineers toward technical excellence and professional growth. Experts motivated students to build strong fundamentals and pursue innovation in aerospace.



Workshop on Computational Fluid Dynamics (CFD)

Students gained hands-on experience with CFD software and learned how fluid flow analysis supports aircraft design and performance. The session connected theory with real-world applications.



Skybounds – Drone Pilot Skills for DGCA Licensing

The training introduced students to UAV technology, flight controls, and DGCA licensing procedures. Live demonstrations inspired many to explore drone piloting as a career path.



2. CELEBRATIONS & MOTIVATIONAL EVENTS

Kalam Day Celebrations (28th–30th Oct 2024)

The three-day event featured expert talks, a workshop for school students, and a prize distribution ceremony. It celebrated Dr. A.P.J. Abdul Kalam's legacy and inspired students to dream big.



3. RESEARCH & LABORATORY DEVELOPMENT

Composite Lab Inauguration

The new Composite Laboratory was inaugurated to support projects on composite material fabrication and testing. It will strengthen hands-on learning and research in advanced aerospace materials.



4. CAREER & PROFESSIONAL DEVELOPMENT

Career Launchpad: Soft Skills for ISRO

A session on soft skills emphasized communication, teamwork, and professionalism essential for success in organizations like ISRO and DRDO.



Guest Lecture on UAV Piloting & Career Insights

Experts shared insights on UAV operations, certifications, and drone industry careers. The session guided students toward opportunities in the UAV sector.



Awareness Program on Higher Education Abroad

Students learned about admissions, scholarships, and preparation for studying abroad. Alumni shared experiences that inspired global career aspirations.



5. INDUSTRIAL VISITS & PRACTICAL EXPOSURE

Industrial Visit to CADMAXX Pvt. Ltd. (Manufacturing Unit 1)

Students explored modern aerospace manufacturing techniques and precision machining processes at CADMAXX. The visit provided valuable technical exposure.



Industrial Visit to ISRO Satellite Centre, Bengaluru

Students witnessed satellite integration and testing facilities at ISRO. The experience sparked inspiration to pursue careers in space research and innovation.



STUDENT ACHIEVEMENTS

CLASS TOPPERS OF ODD SEMESTER



- CLASS TOPPERS OF III SEMESTER: KAVYA V K , KRISH DEV , USHA SINGH A
- CLASS TOPPERS OF V SEMESTER: KRUTHIKA M , G RISHI KUMAR , VARSHA BASAVARAJ , RASHMI H M
- CLASS TOPPERS OF VII SEMESTER: SAI RISHI KESHAVAN D, BALU S, MANGROLIYA KEVIN A

CLASS TOPPERS OF EVEN SEMESTER



CLASS TOPPERS OF IV SEM: KAVYA V K, PAVITRA D, USHA SINGH A

CLASS TOPPERS OF VI SEM: RASHMI H M, VARSHA BASAVARAJ, DEEPIKA C

UNIVERSITY RANK HOLDER

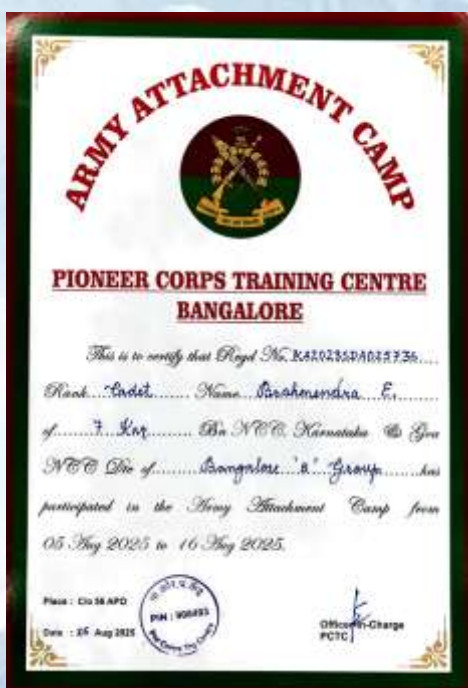


"True success lies not in standing above others, but in lifting those around you to rise together."

NCC STUDENT ACHIEVEMENT



NCC Cadet SUO S. Kushal Gowda from our department is seen participating in the Sardar Patel Narmada Trek – 2024, a prestigious National Level Camp held from 25th November to 2nd December 2024 at GNLA Rajpipla, under the NCC Group Headquarters Vadodara of NCC Directorate Gujarat, Dadra & Nagar Haveli. During this camp, cadets underwent rigorous drill practices and took part in challenging trekking activities across the scenic terrains of Gujarat. The experience tested their endurance and discipline while enhancing coordination and communication with cadets from across the nation. The camp not only strengthened their team spirit and leadership qualities but also instilled a deep sense of adventure and camaraderie, creating memories and lessons that will inspire them far beyond the trekking trails.



NCC Cadet Brahmenndra E. of our department participated in the Army Attachment Camp (National Level Camp) held from 5th August 2025 to 16th August 2025 at the Pioneers Corps Training Centre (PCTC), Banaswadi. During this prestigious camp, cadets underwent drill practice, attended theory sessions, and participated in Drona firing simulation exercises. They also gained hands-on experience with hand grenades by activating and diffusing it and visited esteemed army establishments such as the Madras Engineering Group (MEG) and the Parachute Regiment Training Centre (PRTC). The camp provided cadets with a unique opportunity to live and train alongside army personnel, experiencing the discipline, routine, and spirit of military life firsthand.



NCC Cadets CDT Chandan B L., CDT Guru prasad M , and CDT Vamshi krishna A and CDT Snehashree K of our department, along with other cadets from various departments of our college, have participated in the Combined Annual Training Camp (CATC) held at Air force station jalahalli Campus from 18th July 2025 to 27th July 2025. During the camp, cadets underwent drill parade practice, attended theory sessions on topics such as Health and Hygiene, Field Craft and Battle Craft, and Weapons Training, and gained hands-on experience with various weapons. The camp also provided opportunities for cadets to showcase their talents by taking part in sports and cultural events, promoting teamwork, discipline, and leadership among participants.

STUDENTS NPTEL ACHIEVEMENT

Sl. No	Name	Subject	Duration	Remarks
1	Darshan G	Aircraft Design	Jan-Apr 2025	Pass
2	Shiv Shankar D	Aircraft Design	Jan-Apr 2025	Pass
3	Shivcharan Holla	Aircraft Design	Jan-Apr 2025	Pass
4	Kushal H	Aircraft Design	Jan-Apr 2025	Pass
5	Guru Prasad	Aircraft Design	Jan-Apr 2025	Pass
6	Chandan B L	Aircraft Design	Jan-Apr 2025	Pass
7	Sai Rishi K	Basics of FEA-1	Jul-Sep 2024	Elite-Silver
8	Balu S	Basics of FEA-1	Jul-Sep 2024	Elite-Silver
9	Haizel FJ	Basics of FEA-1	Jul-Sep 2024	Elite
10	Harshitha MN	Basics of FEA-1	Jul-Sep 2024	Elite
11	M Kevin Alpeshbhai	Basics of FEA-1	Jul-Sep 2024	Elite
12	Hajira R	Basics of FEA-1	Jul-Sep 2024	Elite
13	M Kevin Alpeshbhai	Automation in Manufacturing	Jul-Oct 2024	Elite
14	Haizel FJ	Automation in Manufacturing	Jul-Oct 2024	Elite
15	Haizel FJ	Materials Processing	Jul-Oct 2024	Elite
16	Harshitha DN	Materials Processing	Jul-Oct 2024	Elite
17	M Kevin Alpeshbhai	Automation in Production Systems & Management	Jul-Oct 2024	Elite
18	Harshitha M N	Basics of FEA-1	Jul-Sep 2024	Pass
19	Bhaktavatsala	Aircraft Stability & Control	Jul-Oct 2024	Pass
20	Tushar Raj	Aircraft Stability & Control	Jul-Oct 2024	Pass
21	Adarsh C	Aircraft Stability & Control	Jul-Oct 2024	Pass
22	Harshitha MN	Automation in Manufacturing	Jul-Oct 2024	Pass
23	Harshitha DN	Automation in Manufacturing	Jul-Oct 2024	Pass
24	Hajira R	Automation in Manufacturing	Jul-Oct 2024	Pass
25	Hajira R	Materials Processing	Jul-Oct 2024	Pass

26	Tushar Raj	Introduction to Airplane Performance	Jul-Sep 2024	Pass
27	Harshitha MN	Introduction to Aircraft Design	Jul-Oct 2024	Elite Gold
28	Harshitha MN	Introduction to Aerospace Engineering	Oct-Feb 2025	Elite Gold
29	Harshitha MN	Design of Fixed win UAV	Oct-Feb 2025	Elite Silver
30	M Kevin Alpeshbhai	Design of Fixed win UAV	Oct-Feb 2025	Elite GOLD



STUDENT ARTICLES

1. TWA FLIGHT 800: THE FLIGHT THAT CHANGED AVIATION FOREVER

On July 17, 1996, Trans World Airlines Flight 800 lifted off from New York's JFK Airport bound for Paris and then Rome. Operated by a Boeing 747-131 with 230 people onboard, it was meant to be a routine transatlantic journey. Minutes after takeoff, tragedy struck as the jet exploded midair off the coast of Long Island, killing everyone aboard.

The Aircraft and Crew

The 747-131 was nearly 25 years old, powered by Pratt & Whitney JT9D engines, and capable of carrying more than 350 passengers. Flight 800 was commanded by Captain Ralph Kevorkian, a veteran with 18,700 hours, alongside First Officer Steven Snyder and engineers Richard Campbell and Oliver Krick.

The Incident

At 20:19, the flight departed JFK. Just 12 minutes later, as the crew acknowledged an air traffic control clearance, a sudden explosion tore through the centre fuel tank. Witnesses saw a fireball in the night sky before the aircraft disintegrated and crashed into the Atlantic Ocean near East Moriches.

Investigation and Findings

The National Transportation Safety Board (NTSB) found that heat from the air-conditioning units beneath the centre wing tank had warmed residual fuel to dangerous vapor levels. Aged and damaged wiring likely caused a short circuit, igniting the vapours. The blast ruptured the fuselage, breaking the plane apart in midair.

Legacy and Impact

The disaster reshaped aviation safety worldwide. It led to fuel tank inerting systems, stricter inspections of aircraft wiring, and tougher policies for aging fleets. Passenger and baggage security checks were also tightened. The tragedy highlighted how small design flaws, combined with aging systems, could have catastrophic consequences.

A Tragedy Remembered

For families and the aviation community, TWA 800 remains a symbol of lessons learned through loss. It reminds us that aviation safety is never static — it is built on constant vigilance, innovation, and accountability.

“Aviation safety isn’t luck — it’s the science of foresight and the art of responsibility.”

SHIVACHARAN HOLLA

1AH23AEO45

2. NEXT-GENERATION AERODYNAMIC DESIGN: THE FUTURE OF EFFICIENT FLIGHT

From the early wooden aircraft of the Wright brothers to today's modern airliners, the development of aerodynamics has been at the core of aviation progress. Every curve and surface of an aircraft is carefully designed to reduce drag, improve lift, and make flight more efficient. As the demand for cleaner and more economical air travel grows, aerodynamic improvement plays a major role in achieving better performance and lower emissions.

Modern aircraft design depends heavily on Computational Fluid Dynamics (CFD) and wind tunnel testing. These tools allow engineers to study how air moves around an aircraft and make small but effective changes to its shape before building it. The use of blended winglets on most commercial aircraft is one example — they help reduce drag created at the wingtips, cutting down fuel consumption and increasing range.

Research is now focused on the next stage of development, including laminar flow control, where airflow over the wings is kept smooth for longer distances to reduce resistance. Another advancement is morphing wings, which can slightly change their shape during flight to suit different speeds and altitudes. With the help of lightweight materials and 3D printing, such designs are becoming easier to manufacture and maintain.

Engineers are also using digital models of aircraft to study aerodynamic performance throughout a plane's service life. These models help detect problems early and improve maintenance planning. New design methods allow multiple aerodynamic configurations to be tested quickly, saving both time and cost during development.

Although new technologies bring challenges—such as ensuring strength, reliability, and ease of control—the direction is clear. As aircraft move toward electric and hybrid propulsion systems, designers are experimenting with new shapes like blended-wing bodies and distributed propulsion, where engines are placed in different locations to improve airflow and balance.

The future of flight depends on how efficiently we can work with the air itself. By combining good engineering, continuous testing, and a deep understanding of aerodynamics, the next generation of aircraft will not only fly faster and farther, but also cleaner and safer—showing that real progress in aviation begins with smart design and attention to detail.

GURU PRASAD M

1AH23AE017

STORY

The Edge of the Sky: A Technician's Story

The maintenance hangar was an oasis of synthetic light in the dead of night. Elias, a young technician, stood beneath the massive, silent form of an Airbus A350-1000. To the world, it was an airplane; to Elias, it was a precise, carbon-fiber equation. His shift was the final sentinel before sunrise, a crucial few hours where hundreds of interlocking systems had to be confirmed flawless for an intercontinental journey.

His final pre-flight task was the external inspection for a long-haul flight. He ran his light over the leading edge of the wing, checking the seamless transition of the composite skin. A tiny scratch, invisible to the passenger, could ruin the aerodynamics he had studied for years. He paid special attention to the control surfaces—the ailerons, flaps, and spoilers—confirming their range of motion and alignment against the midnight sky.

He then moved to the massive Rolls-Royce Trent XWB engines. He didn't check them with his eyes alone, but through the diagnostic data on his tablet. Every sensor had to align, every temperature and pressure signature had to be perfect. The XWB was a marvel of clean, efficient power, and its reliability depended entirely on the meticulous checks performed on the ground.

This was the quiet responsibility of the ground crew: transforming abstract engineering principles into safe, operational reality. They were the silent partners of the pilots, the ones who translated complex blueprints into the reality of a machine fit for the upper atmosphere.

Suresh, the senior lead, approached him, signing a clipboard with a definitive flourish. “All checks green, Elias. You’ve done it again. The machine is flawless. Now for the walk to the gate.”

Elias felt the familiar surge of satisfaction as he looked up at the immense, elegant wing, recognizing the triumph of human design and manufacturing precision. “We built the perfect machine, sir. Now we send it off to prove us right.”

A few minutes later, he watched from the hangar door as the A350-1000 taxied out to the runway, a smooth, elegant shadow cutting through the airport lights. The ground crews pulled back, and the jet paused at the threshold. He listened to the radio crackle as the tower cleared the jet: ***"Flight 741, cleared for take-off, full length, runway two-seven right."***

It didn't roar; it accelerated with quiet, contained power, pinning the passengers into their seats. As the landing gear retracted, carrying the hundreds of people skyward, Elias felt the same thrill as the pilot. The quiet hum of the **Trent XWB** was his answer; **the successful climb** was the only reply that mattered.

SHIVACHARAN HOLLA

1AH23AE045

SOARING BEYOND THE SKIES: THE SPIRIT OF AERONAUTICS

Since ancient times, humankind has gazed at the skies with wonder, wishing to glide like birds and touch the clouds. What was once a dream has now become one of the greatest achievements of science and engineering—**aeronautics**.

Aeronautics is more than just the design of airplanes; it is the story of human imagination taking flight. The four forces—lift, thrust, drag, and weight—form the invisible music of the skies. Wings curve gracefully to invite the air, engines roar with power to overcome resistance, and pilots navigate the heavens with trust in the brilliance of engineering minds.

Every aircraft is a masterpiece. From lightweight gliders to supersonic jets, from drones mapping the earth to spacecraft crossing into infinity, aeronautics continues to push boundaries. It is not merely about flying—it is about daring, innovating, and believing that no horizon is too distant.

Behind each flight lies the dedication of aeronautical engineers—dreamers who work with equations, designs, and unshakable passion. They transform blueprints into wings, and visions into voyages. Their work carries not only passengers and cargo, but also the legacy of curiosity and courage.

Aeronautics is the poetry of science and the rhythm of adventure. It reminds us that the sky is not the limit—it is just the beginning.

PRATHAM KUMAR R

1AH23AE036

Wings of Tomorrow

The hangar was quiet except for the clinking of tools and the occasional spark from a soldering iron. It was 8:45 PM, long after most students had left the campus, but the AeroTech team was still there—determined, exhausted, and just a little hopeful. They were working on “Project Garuda,” a student-built unmanned aircraft meant to compete in a national aeromodelling challenge. What started as a college assignment had turned into something much bigger—a test of patience, precision, and teamwork.

“Check the angle of attack again,” Meera said, her voice calm but sharp. As the only girl in the team and the project lead, she had earned everyone’s respect the hard way. Opposite her, Arjun was rechecking the aerodynamic data, his laptop glowing with graphs and simulation plots. Weeks of sleepless nights had gone into that model. They’d tested wings that warped under pressure, fuselages that cracked mid-flight, and motors that burned out seconds after takeoff. Each failure pushed them to think differently—to question not just what went wrong, but why. The next morning, the team stood on the airfield. The runway shimmered in the heat, and the drone gleamed under the sun, a perfect blend of carbon fiber, aluminium, and ambition. The judges watched silently as Meera gave the signal.

The motor whirred. The aircraft accelerated, its nose lifting gently as if it had been waiting for this moment. And then—it flew. Smooth, steady, slicing through the sky like it belonged there. The team burst into cheers, their weeks of frustration melting into pure joy. It wasn’t just about winning anymore. It was about proving that innovation could come from a cramped workshop and a handful of determined students. When they later received the award for Best Design and Innovation, Meera simply smiled and said, “We didn’t just build a drone—we built belief.”

That evening, as the sun set behind the college’s wind tunnel tower, the team sat together on the airstrip, watching their creation gliding in the distance. The sky above them seemed endless, but for the first time, it didn’t feel unreachable.

Because somewhere between the broken circuits and successful flight, they had all learned the same lesson—

“ dreams don’t need wings; they just need courage to take off.”

ASHWINI N GUDADHE

1AH23AE007

POEM

The Engineer's Quiet Trust

The hanger lights dim on the carbon shell,
A giant silent, waiting for the bell.
Beneath the wing, where **Trent XWB** rests,
The engineer performs the final tests.
No public cheer, no cabin's soft acclaim,
Just focused duty, calling out each name Of system,
sensor, strut, and flawless seam,
To validate the aerodynamic dream.

The **composite skin** is smooth and cool to touch,
We measure miles with movements meaning much.
From tablet screen to bolt, the data flows,
The deep assurance that the ground crew knows.
We sign the sheet, the paper mandate sealed,
The truth of physics on the runway revealed.

Then comes the call, the number on the air,
The final surge, the elegant, low prayer.
It doesn't scream, but glides upon the light,
A silent promise to the fading night.
It climbs, it shrinks, a speck against the blue,
And in that flight, our work is proven true.
For every lift, a trust that we instilled,
The silent contract that the sky fulfilled.

CHANDAN B L

1AH23AE009

SONG OF FLIGHT

Lift awakens with the wing's embrace,
Drag resists but cannot chase.
Thrust propels with fiery might,
Weight pulls earthward, yet we fight.

From prop to jet, from piston's call,
To turbines humming, conquering all—
Equations carved in skyward streams,
Turn engineers' thoughts to flying dreams.

The fuselage whispers strength and grace,
Composites bond in seamless space.
Every rivet, every spar,
Guides the craft to worlds afar.

Oh dreamers bound by air and sky,
No boundary holds the will to fly.
For in each blueprint, chart, and test,
Lives mankind's endless, soaring quest.

Pratham Kumar R

1AH23AE036

A STUDENT OF SKY

I am a student, with sketches in my hand,
In crowded labs, I learn to understand.
The hum of machines, the whirl of a fan,
Becomes my world, my sky, my plan.

I've stared at formulas until they made sense,
Each equation a story, each curve immense.
Lift, drag, thrust, and weight,
All dance in my mind as I calculate fate.

I am learning more than wings can teach,
More than numbers or graphs can reach.
I learn patience, persistence, and trust,
That dreams take flight when effort is just.

I imagine the drones I build in the sun,
Taking off, climbing, flying as one.
Not just machines, but pieces of me,
Chasing the clouds, boundless and free.

I am a student, yet I soar,
In visions, in projects, in so much more.
For each calculation, each test, each try,
Brings me closer to touching the sky.

One day I will build a plane,
Or a spacecraft to break the earthly chain.
But until that day, I work and I learn,
For every failure is a flight in return.

I am a student of the sky,
Watching, building, wondering why.
Yet I know, as the engines start to cry,
One day, my dreams will take me high.

ASHWINI N GUDADHE
1AH23AE007



DID YOU KNOW?

- The average commercial jet's engine (like the one on the Airbus A350) is so powerful that it can ingest air at the rate of a large swimming pool every three seconds.
- In a high-altitude emergency, the drop in cabin pressure can cause liquids to boil at room temperature, which is why maintaining the cabin's integrity is vital.
- The Boeing 787 Dreamliner's wings are so flexible that the wingtips can bend upwards by over 25 feet (meters) during extreme turbulence, acting like a giant shock absorber.
- Airplane window panes are actually made of three layers of acrylic material, with a tiny "bleed hole" in the middle layer to regulate the pressure difference between the interior and exterior.
- The time it takes for a pilot to complete the final safety checks on a modern jet before engine start is nearly identical to the time the Wright brothers' first flight lasted: about 12 seconds.
- Modern jets use a sophisticated system called ACARS (Aircraft Communications Addressing and Reporting System) to send maintenance reports and flight data to ground crews automatically, often while still in the air.
- A fully loaded Airbus A380 requires a minimum of approximately miles (kilometres) of runway to safely take off, highlighting the massive forces required for lift.
- The “Black Box” (Flight Data Recorder and Cockpit Voice Recorder) is designed to survive impacts up to G’s of force and temperatures over for extended periods.
- Due to the curve of the Earth, a pilot flying above feet can see the horizon over 230 miles (370 kilometres) away.
- The concept of using a pressurized cabin was directly inspired by the design of submarines—engineers essentially wrapped the passenger area in an airtight shell to simulate a low altitude.

MYTH BUSTER

- **Myth:** "You can deploy the oxygen mask using a pen or sharp object."
Fact: Masks are deployed **automatically** when the cabin pressure drops. Pulling down sharply on the mask starts the oxygen flow.
- **Myth:** "Planes use only one compass to navigate."
Fact: They rely on multiple systems, including **GPS**, inertial reference systems, and radio beacons. The compass is just a backup.
- **Myth:** "Turning on your phone will crash the plane."
Fact: Modern phones pose **no interference risk** to flight controls. The rule exists mainly to prevent annoying radio transmissions during taxi, takeoff, and landing.
- **Myth:** "If the aircraft loses cabin pressure, the hole in the side of the fuselage will suck your phone and wallet right out."
Fact: Objects would be pulled toward the breach, but the primary danger is **hypoxia** (oxygen deprivation), not losing your belongings.
- **Myth:** "Landing gear are deployed late to save fuel during the approach."
Fact: Gear deployment is necessary to **increase drag** and slow the aircraft for a stable, safe landing speed. It is not a fuel-saving tactic.
- **Myth:** "The pilot can 'dump' all the fuel immediately in an emergency."
Fact: Fuel is dumped at a **controlled rate** to ensure it evaporates. Many modern, smaller jets are not even equipped for dumping.
- **Myth:** "Turbulence is dangerous and means the aircraft is falling."
Fact: Turbulence is just a **change in air movement**. Aircraft are built to withstand forces far greater than any rough air you will encounter.
- **Myth:** "Aircraft can't fly if ice forms on the wings."
Fact: Planes use **de-icing fluid** on the ground and onboard anti-ice systems (using hot engine air) in flight to maintain lift.
- **Myth:** "The most dangerous part of the flight is the cruising altitude."
Fact: Most accidents occur during the **take-off and landing phases**—the first three and last eight minutes of the flight.

FUN CORNER

CROSS WORDS

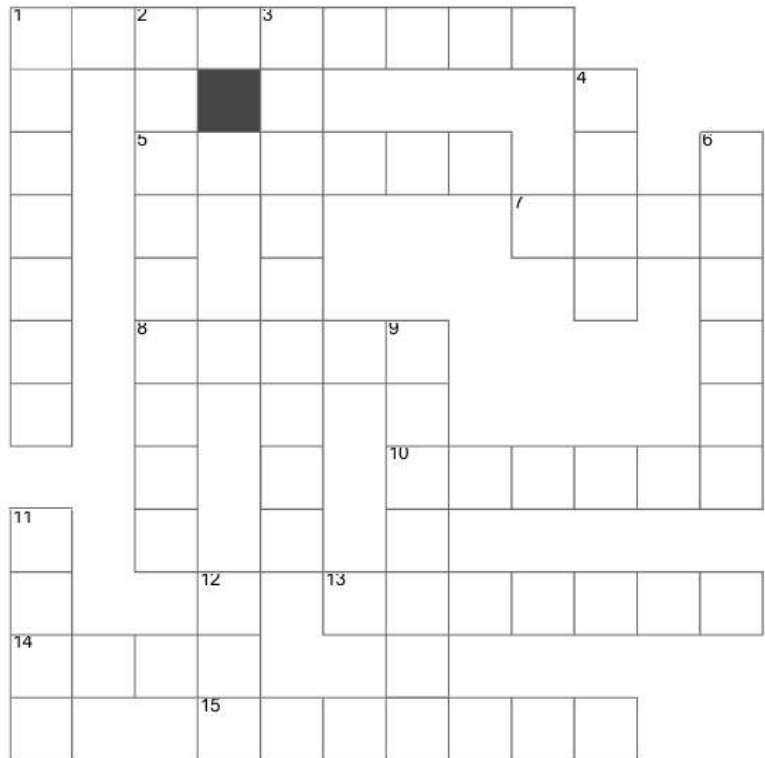
Think you know aviation inside out? Prove it by cracking this crossword!

ACROSS

- 1 Instrument measuring an aeroplane's altitude
- 5 Paved strip for aeroplane takeoffs and landings
- 7 Rear section of an aeroplane, providing stability
- 8 Person who operates an aeroplane
- 10 Vertical control surface on an aeroplane's tail
- 13 Aeroplane with two main wings
- 14 Forwardmost part of an aeroplane
- 15 Act of an aeroplane leaving the ground

DOWN

- 1 Hinged part of an aeroplane wing, controlling roll
- 2 Engine combining a turbine with a propeller
- 3 Aeroplane with a single main wing
- 4 Hinged surface on an aeroplane wing, increasing lift
- 6 Aeroplane designed to fly without an engine
- 9 Rotating component in an aeroplane's jet engine
- 11 Aerodynamic surface providing lift for an aeroplane
- 12 Type of engine or an aeroplane powered by one

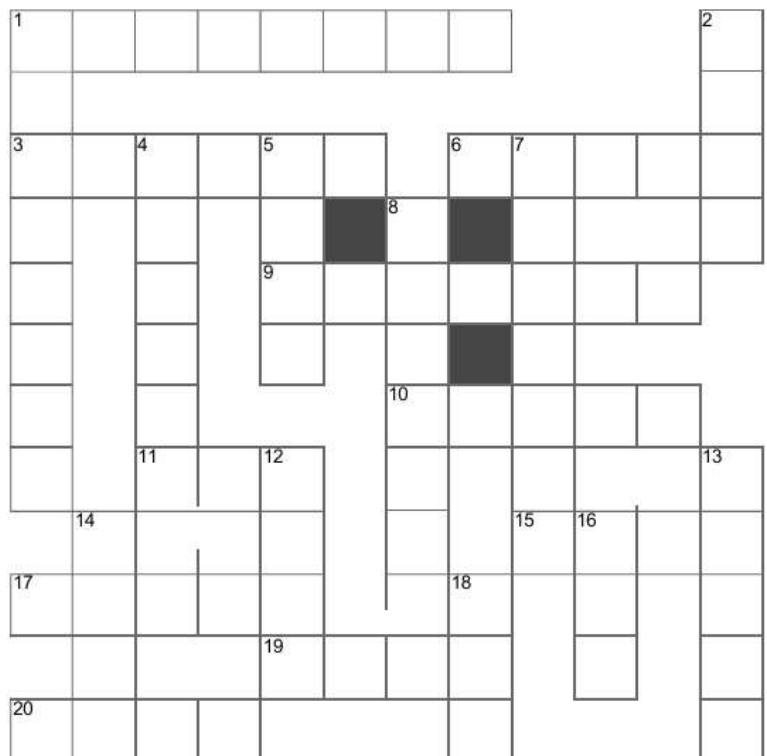


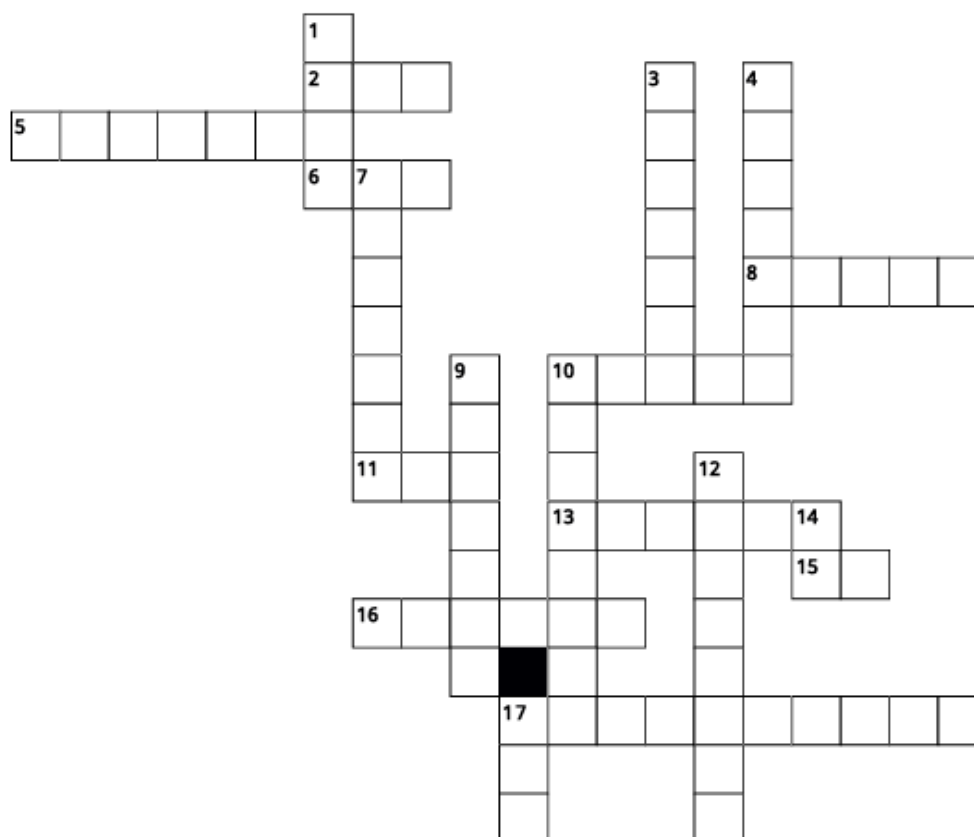
ACROSS

- 1 Aircraft electronic systems
- 3 Force propelling an aircraft forward
- 6 Goods transported by air
- 9 Control surface for aircraft roll
- 10 Unmanned aerial vehicle
- 11 Aircraft's side-to-side movement
- 15 Movement of an aircraft on the ground
- 17 Passenger compartment of an aircraft
- 19 Area for passenger boarding
- 20 Control surface on a wing

DOWN

- 1 Height of an aircraft above sea level
- 2 Unit of airspeed
- 4 Strip for aircraft takeoffs and landings
- 5 Passenger's place in a plane
- 7 Facility for aircraft operations
- 8 Engine-less aircraft
- 12 Main lift-generating part of a plane
- 13 One who operates aircraft controls
- 14 Rear section of an aircraft
- 16 Air Traffic Control, for short
- 18 Type of engine for fast aircraft





Across

- 2. Auckland IATA code
- 5. You fly out of a
- 6. Air Traffic Control
- 8. You fly in a
- 10. Best class on a plane
- 11. Another word for vertical stabilizer
- 13. Nine
- 15. Air New Zealand
- 16. Plane takes off and lands on a
- 17. What NZST Campus are we

Down

- 1. International Airline Transportation Association
- 3. A sports team fly using
- 4. A Pilot, Co Pilot and Captain control the plane in the
- 7. Plane is going off the runway
- 9. Plane is going on the runway
- 10. Another word for body of an a/c
- 12. What are we learning about now
- 14. New Zealand
- 17. Wellington

FIND THE WORDS

Circle the skies on paper find them all before they fly away!

AIRBUS

ANTONOV

BOEING

CESSNA

HERCULES

LEARJET

LYCOMING

PIPERCUB

PISTON

TURBOFAN

TURBOJET

TURBOPROP

T	I	T	B	U	C	R	E	P	I	P
I	S	R	A	H	F	A	U	T	O	R
L	G	T	E	N	N	E	U	R	L	N
S	S	C	U	S	T	R	P	Y	A	O
E	S	U	S	R	B	O	C	N	E	T
L	S	E	B	O	B	O	N	S	W	S
U	C	L	J	R	M	O	E	O	C	I
C	Y	E	U	I	I	B	F	I	V	P
R	T	T	N	Y	L	A	P	A	N	E
E	R	G	E	G	L	G	I	I	N	G
H	A	N	R	T	E	J	R	A	E	L

AIRLINE

AIRPORT

BAGGAGE

CABIN

CHECKIN

CREW

CUSTOMS

FLIGHT

FUSELAGE

GATE

LANDING

PILOT

RUNWAY

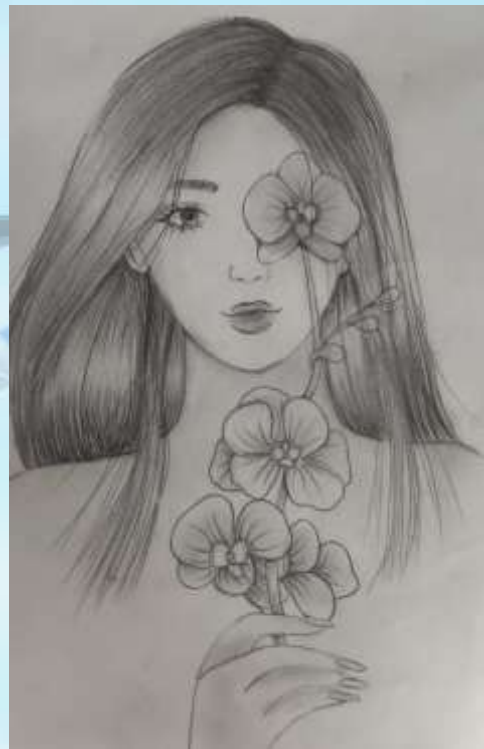
SECURITY

TAKEOFF

TERMINAL

F	M	S	T	F	F	O	E	K	A	T	U
U	Y	N	R	E	L	F	G	T	L	N	F
S	W	T	O	N	T	I	A	E	E	F	G
E	I	E	P	I	H	E	G	R	W	P	N
L	Y	T	R	K	G	T	G	M	N	R	I
A	T	A	I	C	I	A	A	I	U	C	D
G	I	I	A	E	L	G	B	N	I	U	N
E	R	R	E	H	F	A	W	A	O	S	A
G	U	F	L	C	C	A	Y	L	E	T	L
F	C	N	E	I	Y	N	P	I	L	O	T
N	E	T	S	A	N	G	I	I	M	M	A
K	S	N	L	N	E	E	E	N	C	S	G

STUDENT CREATIVE CORNER



AMBIKA
1AH23AE003



SHIVACHARAN HOLLA
1AH23AE045

**"AERONAUTICS IS WHERE CURIOSITY BECOMES LIFT,
KNOWLEDGE BECOMES THRUST, AND IMAGINATION
BECOMES FLIGHT."**

