



EXCEL ENGINEERING COLLEGE

KOMARAPALAYM-637303

DEPARTMENT OF AERONAUTICAL ENGINEERING



ARHAKRZ 2K24- 25

NEWSLETTER Q2

VOLUME I ISSUE 2	CHAIRMAN'S MESSAGE	VICE-CHAIRMAN'S MESSAGE	PRINCIPAL'S MESSAGE
VISION			
To empower the student s subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment			
MISSON			
<p>To provide the quality technical education in tune with challenges.</p> <p>To offer latest technological development in the field of aero engineering.</p> <p>To integrate the intellectual, spiritual, ethical and social development of the students for becoming dynamic Aero-nautical engineers.</p> <p>To initiate desires for under taking entrepreneurship and lifelong learning.</p>	<p><i>Aeronautical Engineering is a prominent branch of Engineering focused on the advancement of technology in aviation, space exploration, and defence. It encompasses the study, design, testing, construction, and maintenance of commercial aircraft, spacecraft, missiles, and their components.</i></p>	<p><i>The Department of Aeronautical Engineering continues to be a source of pride for our institution. I extend my heartfelt congratulations to the Aero Department on the release of this month's ARHAKRZ news letter. I encourage students to strive for excellence, expand their knowledge, and stay ahead of the latest advancements in the dynamic world of aeronautics.</i></p>	<p><i>My heartfelt congratulations to the Department of Aeronautical Engineering on publishing its newsletter, showcasing the department's academic achievements and milestones. In the realm of outcome-based education, empowering students remains a pivotal focus for any leading institution. I sincerely hope this publication becomes a beacon of inspiration and a soaring success!</i></p>
	Prof. Dr. A. K. NATESAN M. Com., MBA., M. Phil.,	Dr. N. MATHAN KARTHIK M.B.B.S., M. H. Sc.,	Dr. K. BOMMANNA RAJA Ph.D.,

HOD'S MESSAGES

INDEX OF THE NEWSLETTER

	<p><i>Aeronautical Engineering is a dynamic and cutting-edge discipline with a legacy spanning over a century. It demands continuous innovation from engineers and scientists to expand its horizons and drive advancements in next-generation hypersonic aircraft, reusable spacecraft, and launch vehicles. My best wishes to all aspiring aeronautical engineers, who will play a vital role in propelling India to the forefront of global technological excellence.</i></p>	DESCRIPTION	PAGE NO
		Message– Chairman, Vice– Chairman, Principal and HoD	01
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DR.A..KARTHIKEYAN Ph.D.,

DEPARTMENT NEWS

Academic Guest Lecture on “**Technological advancement in Biodiesel Production Processes** on 05.10.2024 at APJ Hall

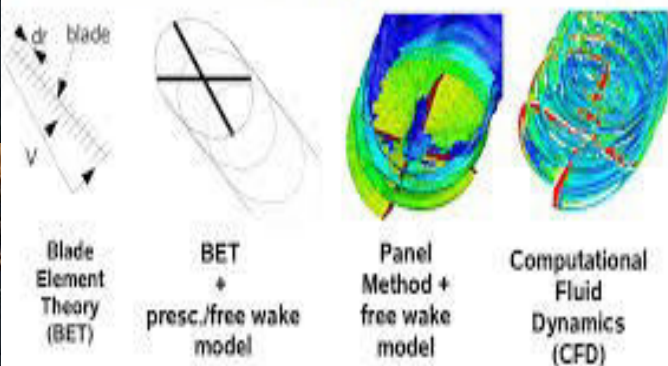
Chief Guest:

Dr. S. Renganathan,
Professor,
Department of Biotechnology,
Anna University, Chennai

No. of Participants: 162



Fidelity



Academic Guest Lecture on “**Exploring the Role Of CFD in Rotor Blade Aero Dynamics**’ on 05.10.2024 at Hyndai lab

Chief Guest:

Mr. R.Arun Prasath
Asst. Professor-SG
Nehru Institute of Engineering & Technology
Coimbatore

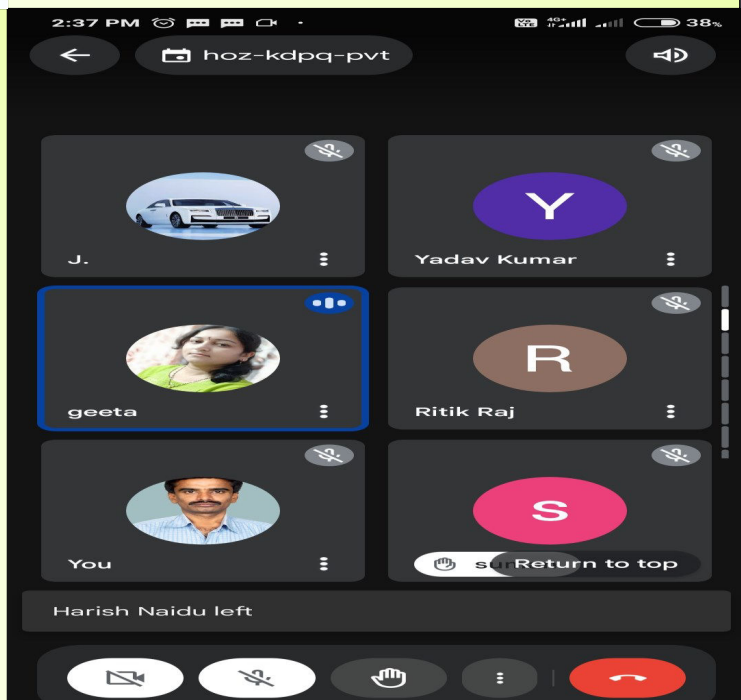
No. of Participants: 58

EDC programme on “**Entrepreneurial opportunities in Green Aviation**” on 05.10.2024 at Pavayammal Hall

Chief Guest:

Ms. Gauravi burte-kulkarni,
Managing Director,
GAYO Etech, Mumbai.

No. of Participants: 143



DEPARTMENT NEWS



Expo on “Drone Assembly & Aircraft Maintenance on 08.10.2024 at Aero Hanger”

Resource person:

N.Sreenivasaraja, M.Sanjay, R. Roopesh
Assistant Professor,
Department of Aeronautical Engineering
Komarapalayam

No. of Participants: 50



Non Academic Event on “**empowering Future Through celebrating world students Day** on 15.10.2024 at Pavayammal Hall

IGL on Sustainable Fluid Mechanics Reducing Aircraft Emissions through Aerodynamics Design on 25.10.2024 at **Pavayammal Hall**

Chief Guest:

Mr. P. Kumar
Head-Environment Division
JSW Steel Limited
Salem

No. of Participants: 156



Non Academic Event Awareness program on International Air Traffic Controller Day on 29.10.2024 at Pavayammal Hall.

Chief Guest:

Dr. M. Gowtham
Associate Professor,
Department of Aeronautical Engineering
Komarapalayam

No. of Participants: 114

Students Participation

Students participation in various event workshop, ideation , paper presentation and sports etc., in the month of October to December-2024

Sl. No.	Nature of the Program	No. of participation*
1	Workshop	02
2	Skill contest	04
3	Online Course	01
4	Maths contest (ISTE Activity)	92
5	Internship	57



Essential Skills for Design Engineer

EXCEL ENGINEERING COLLEGE, ERODE

Aeronautical Engineering Students



ccubecadcentre
Erode, Tamilnadu



Essential Skills for Design Engineer

EXCEL ENGINEERING COLLEGE
Aero & Mechanical Engineering Students

Faculty Participation

Faculty contribution in the month of October to December-2024*

Conference Publications

S.No	Name of the Faculty	Title of the Paper	Conference details and Publication Details
1	Dr. M. Gowtham	Microbial Fuel Cells Unleashing Sustainable Solutions for Domestic Wastewater Treatment and Bio-electricity Harvesting - A Case Study from Mettur Dam Drainage Channel, Salem, Tamil Nadu, India	5th International Conference on Advances in Mechanical Engineering (ICAME 2024), March 20-22, 2024. Pp 297 Digist Journal of Nano materials and Biostructures, Vol. 19 (6) pp. 1087-1093 (2024)
2	Dr. M. Gowtham	Influence of Butanol vapours on the combustion, performance and emission characteristics of a Reactivity-Controlled Compression Ignition Engine	5th International Conference on Advances in Mechanical Engineering (ICAME 2024), March 20-22, 2024. Pp 298
3	Dr. M. Gowtham	Identification and formulation of key contribution high potential, medicinal molecules by citrus sinensis and citrus limetta	5th International Conference on Advances in Mechanical Engineering (ICAME 2024), March 20-22, 2024. Pp 304
4	Dr. K. Rajkumar	Performance and emission characteristics analysis of diesel engine by using alternative fuel (Animal waste biodiesel)	5th International Conference on Advances in Mechanical Engineering (ICAME 2024), March 20-22, 2024. Pp 342

Research Patent Publication

Dr.N.Venkatachalam , Analysis and study of Hydrothermal Synthesis of Bismuth Ferrite hollow spheres with enhanced visible light photo catalytic activity using Deep learning Approaches (202431052899 A)

Mr. Karthik S, Camera Based Solar Drone for Flora Identification System Employing Ensemble Machine Learning (202331025378).



NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
DR A KARTHIKEYAN
for successfully completing the course
Automation in Manufacturing

with a consolidated score of **77 %**

Online Assignments	23.1525	Proctored Exam	54.75
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Total number of candidates certified in this course: 1559

Jul-Oct 2024
(12 week course)

Prof. T.K. Bharad
Head, Centre for Collaborative Technology
NPTEL, Coordinator, IIT Gandhinagar

Prof. S. V. Rajan Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Indian Institute of Technology Gandhinagar

Swayam

Roll No: NPTEL2024001000000000 To verify the certificate

No. of credits recommended: 3 or 4



NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
SANJAY M
for successfully completing the course
Metal Additive Manufacturing

with a consolidated score of **60 %**

Online Assignments	24.3825	Proctored Exam	35.6175
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Total number of candidates certified in this course: 932

Jul-Oct 2024
(12 week course)

Prof. T.K. Bharad
Head, Centre for Collaborative Technology
NPTEL, Coordinator, IIT Gandhinagar

Prof. S. V. Rajan Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Indian Institute of Technology Gandhinagar

Swayam

Roll No: NPTEL2024001000000000 To verify the certificate

No. of credits recommended: 3 or 4

NPTEL CERTIFICATION

Mr.J.Senthikumar, Mr. S.R.Arun, Mr. M.Sanjay has cleared the NPTEL course in Metal Additive manufacturing

Dr. A.Karthikeyan has cleared the NPTEL course in Automation in manufacturing.

Mr. S Karthik has cleared the NPTEL course in Rapid manufacturing

PLACEMENT NEWS

Excel ENGINEERING COLLEGE - AUTONOMOUS
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai. Accredited by NBA (AERO, MECH, CSE, ECE, AGRI, CIVIL & BMS), NAAC (A+ Grade - 3.26) and Recognized by UGC (27 & 12B)

Centre for Training & Placement

Dinesh kumar
B.E-Aero
Security Officer

Harish
B.E-Aero
Officer AO & CS

Prasanth
B.E-Aero
Officer AO & CS

- ▶ Personal Mentoring by Industry Experts
- ▶ Elite Placement @ Excel
- ▶ Vigorous training from 1st year onwards

IndiGo Airlines
Batch 2025
3.33 LPA

12.5
LPA
Highest Salary
Package

900
Hrs
Training

864
Internship

3.6
LPA Average
Salary
Package

excelinstitutions.com | Komarapalayam, Namakkal District. - 637 303 | "Achieve Your Life Goals @ Excel"

Mr. Dinesh kumar, Mr. Harish and Mr. Prashanth were placed in **INDIGO AIRLINES** the package of 3.33 lakhs/annum.



READING PAGE

Boeing Unveils the 797 'New Midsize Airplane'

In October 2024, Boeing introduced the 797, targeting the mid-market segment with improved fuel efficiency and passenger comfort, aiming to fill the gap between narrow-body and wide-body aircraft.

SpaceX's Star ship Achieves Successful Orbital Test Flight

In November 2024, SpaceX's Star ship completed its first successful orbital test flight, marking a significant milestone in reusable spacecraft technology.

NASA's Artemis III Mission Returns Humans to the Moon:

December 2024 saw NASA's Artemis III mission successfully land astronauts on the lunar surface for the first time since the Apollo era, advancing plans for sustainable lunar exploration.

India's Gaganyaan Mission Conducts Crewed Test Flight

The Indian Space Research Organisation (ISRO) successfully conducted a crewed test flight of the Gaganyaan spacecraft in December 2024, progressing toward India's first human spaceflight program.

Airbus Tests Hydrogen-Powered Aircraft

Airbus conducted successful test flights of its hydrogen-powered ZEROe demonstrator in November 2024, moving closer

Blue Origin's New Glenn Rocket Completes Maiden Flight

Blue Origin's New Glenn rocket had its inaugural flight in December 2024, aiming to provide heavy-lift capabilities for various payloads, including commercial satellites and deep space missions.

China's Tiangong Space Station Expands

Hina added new modules to its Tiangong space station in October 2024, enhancing its capabilities for scientific research and international collaboration in low Earth orbit.

Rolls-Royce Tests All-Electric Aircraft

Rolls-Royce successfully tested its all-electric aircraft, the Spirit of Innovation, in November 2024, setting new speed records and demonstrating the potential of electric propulsion in aviation.

READING PAGE

Program Educational Objective

PEO 1: Graduates will have the ability to handle industrial challenges through advanced engineering technologies.

PEO 2: Graduates will have the capability to become socially, intellectually, and ethically responsible aeronautical engineers.

PEO 3: Graduates expertise with essential technical, managerial, and soft skills that make them to be professionally competent.

Program Specific Objective

PSO 1: Exhibit skill and knowledge on aerodynamics, propulsion and structures.

PSO 2: Solve real time problems related to aircraft manufacturing and maintenance.

PSO 3: Apply CAD/CAE tools to design and analyze the aircraft components.

AERONAUTICAL ENGINEERING TRENDING NEWS IN THE OCT– DEC 2024

Legislative Advancements in India's Aviation Sector

On December 5, 2024, the Indian Parliament passed the Bharatiya Vayuyan Vidheyak, 2024, replacing the Aircraft Act of 1934. This new legislation aims to modernize India's aviation regulatory framework, aligning it with international standards and addressing emerging challenges such as technological advancements, safety, and consumer protection. Key changes include expanding regulation to cover aircraft design, manufacture, and maintenance, streamlining licensing processes, and introducing stricter penalties for violations.

Expansion of India's Domestic Airline Fleet

As of November 21, 2024, India's domestic airlines are projected to expand their fleet to 1,400 aircraft within the next five years, up from the current 800 planes. This growth is driven by substantial orders from carriers like IndiGo and Air India, reflecting the increasing potential of India's aviation sector. The expansion underscores the country's commitment to becoming a global aviation hub.

Launch of Engineering Mega Warehouse by Have Us Aero Tech India

On November 12, 2024, HaveUs AeroTech India inaugurated a 70,000 square-foot Engineering Mega Warehouse to support maintenance, repair, and overhaul (MRO) operations. The facility is designed to improve turnaround times for airlines by storing a wide array of engineering spares, aircraft components, and engines, including specialized storage for complex avionics, hydraulic, and mechanical parts. This development aims to enhance operational efficiency and contribute to India's vision of self-reliance in the aviation sector.

Merger of Air India and Vistara









On November 12, 2024, Singapore Airlines invested Rs 3,194.5 crore in Air India following the completion of the operational integration and legal merger between Air India and Vistara. This consolidation unifies the operations of Air India, Air India Express, and Vistara into a single full-service carrier, marking a significant milestone in the transformation of the Air India Group post-privatization. The unified entity now operates over 8,300 weekly flights on 312 routes, connecting more than 100 domestic and international destinations with a fleet of 300 aircraft.

FUN NEWS

IF $A + B = 5$ AND $A^2 + B^2 = 13$, FIND AB.

A. 6 B. -6 C. 12 D. -12


Math puzzle

 *  = 4
 +  = 7
 *  = 15
 +  = ?

VectorStock

#DYK SBQ QUIZ

SBQ This is a photo of the German V2 rocket. It was produced by Germany from 1942-1944 as a weapon. It pioneered elements still used in rocket design. Which of these are among them?



Follow #SpaceBQ

A: Turbo pumps
 B: Gimballed Engines
 C: Liquid Oxygen (as the oxidizer)
 D: Both A & B

Visit www.SpaceBQ.org to find out the answer



SPACE RELATED SCIENCE QUIZ

Which planet is closest to the Sun?

- A Venus
 B Earth
 C Mars
 D Jupiter ?

Guess The Airplane!



A. Boeing 747
 B. Douglas 30
 C. Airbus A330
 D. AN-225 Mriya

Aviation Quiz!

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