EXCEL ENGINEERING COLLEGE
KOMARAPALAYM-637303

DEPARTMENT OF AERONAUTICAL ENGINEERING
ARHAKRZ NEWSLETTER
2K23– 24 Q2

VOLUME I ISSUE 2

VISION

To empower the students subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment

MISSON

To provide the quality technical education in tune with challenges.

To offer latest technological development in the field of aero engineering.

To integrate the intellectual, spiritual, ethical and social development of the students for becoming dynamic Aeronautical engineers.

To initiate desires for under taking entrepreneurship and lifelong learning.

CHAIRMAN'S MESSAGE

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.

Prof. Dr. A. K. NATESAN
M. Com., MBA., M. Phil.,

VICE-CHAIRMAN'S MESSAGE

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.

Dr. N. MATHAN KARTHIK
M.B.B.S., M. H. Sc .,

PRINCIPAL'S MESSAGE

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!

Dr. K. BOMMANNA RAJA
Ph.D.,

HOD'S MESSAGES

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.

DR.K.RAJKUMAR Ph.D

INDEX OF THE NEWSLETTER

DEPARTMENT NEWS

One day program on "**Paper writing, Patent filing and Intellectual Property Rights**" has conducted on 28.10.2023 at APJ Hall.

Chief guest

Dr.P.Sivakumar

Assistant Professor (Chemistry)

Excel Engineering College

No of participants

92

Academic Guest Lecture on **Structural Health Monitoring of Co-Axial Composite Rotor Blade** has conducted on 15.11.2023 at Pavaiyammal Hall.

Chief guest

Prof.R.Veeramanikandan,

Department of Aeronautical Engineering,

Hindusthan College of Engineering and Technology, Coimbatore

No of participants

69

Awareness Rally on **Right to Information Act** has completed on 08.10.2023 at Komarapalayam

Chief guest

Mr.Gunasekaran,

Engineer Pollution control board,

Komarapalayam

Number of participants

54

Academic Guest Lecture on **UAV path Optimization** has conducted on 07.12.2023 at A4204.

Chief guest

Dr.D.Kalaimegam,

Associate Professor,

Mehendra Engineering College

Number of participants

Students Activity*

Students participation in various event workshop, ideation , paper presentation and sports etc., in the month of October to December-2023

Sl.No	Nature of Events	Participants
1	Workshop	07
2	Seminar	08
3	Symposium	07
4	Other	09
	Total	31

Placement Details*

Sl.no	Name Of the Company	No. of Offers
1	Technologics, Bangalore.	1
2	lenergizer IT Service Pvt Ltd, Bangalore.	1
3	Qspider, Bangalore	1
4	Ismat Industrail Spares Manufacturing & Company, Chennai.	4
5	24/7, Chennai.	1

Faculty Participation

Faculty contribution in the month of October to December-2023*

Paper Publication (Conference/Journal)*

Sl. No	Name of the Faculty	Title of the paper	Name of the conference
1	Mr. N Sreenivasa Raja	An IOT Based Mitigation of Occupational Dust Risks in Glass Manufacturing Plants.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1338
2	Mr. J Sendhil Kumar	Design and Analysis of IOT based Fire Suppression System for the Safety of Industry 4.0.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1345
3	Mr. M Sanjay	Development and Implementation of an IoT Based Safety Compliance Assessment Tool for Industrial Processes.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1360
4	Mr. S Prabhu	Effect of Fiber Layering and Acetylation Treatment on Mechanical and Rate of Water Absorption Properties of Luffa Cylindered Fiber Epoxy Composite.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1736-1742
5	Mr. K VijayBabu	Enahncing the Safety of LPG Storage through the Implementation of Safety Instrumented Systems with IoT Technology.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1743
6	Mr. N Sreenivasa Raja	Integrating IoT Sensor Technology for Improved Industrial Safety Measures in the Textile Industry.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1381
7	Mr. S Prabhu	IoT Enabled Integrated Safety Systems for Mitigating Human Hazards in Pneumatic Operated Buses.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1394-1399
8	Mr. J Senthil Kumar	IoT Enabled Waste Reduction and Recycling to Alleviate environmental Hazards.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1400
9	Mr. G Velmurugan	Minimizing Risks in Close Proximity ARC Welding with Autonomous AI Powered Welding System: Risk Assessment and Hazard Prevention.	2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN) Pages 1750

Funding Details*

S.No.	*Name of the Faculty*	*Funding Agency*	*Amount in Rs.*	*Duration*
1	Mr. K. Vijaybabu	Niral Project (Student Project)-Tamilnadu Government	10000	3 Months

Faculty Participation

Research Patent Publication*

J Senthill Kumar. Design and Fabrication of Plastic Bottle Recycling Machine (202341054753)

Consultancy work *

S. No	Project Title	Name of the Industry	Faculty In-charge	Period & Duration	Amount in Lakhs (INR)
1	Advanced Corrosion Resistant Coatings for Long-Lasting Bus Bodies	Saravana Industries 31, EVK Sampath Rd, Moolapat-rai, Erode, Tamil Nadu 638003	Dr.S. Prashanth Mr. J. Senthil ku-mar	2021-2023, 2 Years	2,45,000
2	High-Performance Lightweight Packaging for Bulk Pet Food Transportation	Amman Pet Industries 2\152, SAMIYAMPALATHAR THOTTAM, KALIYANUR POST Namakkal, Tamil Nadu,	Dr. A. Karthikeyan Mr. G. Velmurugan Mr. R.Roopesh	2021-2023 & 2 years	2,25,000
3	Research and Development of Corrosion-Resistant Coatings for Industrial Use	Komarappa Industries No.83/2, cochin- Bangalore high-way, Nasiyanur, Tamil Nadu	Dr. S.P. Venkate-san Mr. S.Prabhu Mr. M. Sanjay	2022-2023 & 1 year	2,18,000

Event Participation*

SL. No.	Name of the faculty	Designation	FDP / Seminar / Conference / Workshop / Webinar / NPTEL / Online course Industrial / Training
1	Mr.S.Balasundaram	AP	1
2	Mr.S.Prabhu	AP	1
3	Mr.J.Senthil Kumar	AP	1
4	Mr.D.Vadivel	AP	1
5	Mr.G.Velmurugan	AP	1
6	Mr.S.Karthik	AP	1
7	Mr.M.G.Rajagopal	AP	

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

The graduates will able to

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.

READING CORNER

AERONAUTICAL ENGINEERING TRENDING NEWS IN THE OCT– DEC 2023

Space Industry Growth and Innovation

- **Starship by SpaceX** had its second full-stack launch attempt in November 2023. Although it ended in failure, it marked progress in super-heavy-lift launch systems.
- **ISRO's Aditya-L1 mission** (solar observatory) launched successfully in September 2023.
- **Private space exploration surged**, with Rocket Lab, Firefly, and others continuing launches for satellite constellations.

Sustainable Aviation and Green Technologies

- **Sustainable Aviation Fuel (SAF)** adoption accelerated, with major airlines like United and Lufthansa investing in large-scale production deals.
- Airbus completed **flight tests using 100% SAF** on A321neo aircraft.
- Development of **hydrogen-powered aircraft** gained momentum—ZeroAvia and Universal Hydrogen both conducted successful test flights.

AI and Autonomy in Aerospace

- Integration of **AI for air traffic management (ATM)** was explored to reduce delays and optimize flight paths.
- **Autonomous flight systems** tested in drones and small aircraft, particularly for urban air mobility (UAM).

Advanced Air Mobility (AAM) Developments

- **eVTOL aircraft** (electric vertical takeoff and landing) advanced to certification stages.
- **Joby Aviation** and **Archer Aviation** showed flight test milestones.
- Urban air mobility (UAM) trials launched in cities like Dubai and Paris.

Defence Aerospace Modernization

- Continued development of **6th-gen fighter jets** like the **US NGAD** (Next Gen Air Dominance) and **UK's Tempest** program.
- **Hypersonic weapons testing** ramped up by the US, Russia, China, and India.
- Drones and unmanned combat systems saw expanded deployment and AI integration.

Defence and Geopolitical Influence

- Increasing demand for **unmanned aerial systems (UAS)**, especially in surveillance and reconnaissance roles due to ongoing geopolitical tensions.
- Nations investing in **hypersonic weapon systems**—notably the U.S., China, and Russia.
- **NATO and allied collaborations** increased for aerospace defense strategies, particularly focused on Eastern Europe and the Indo-Pacific.

KNOWLEDGE CORNER

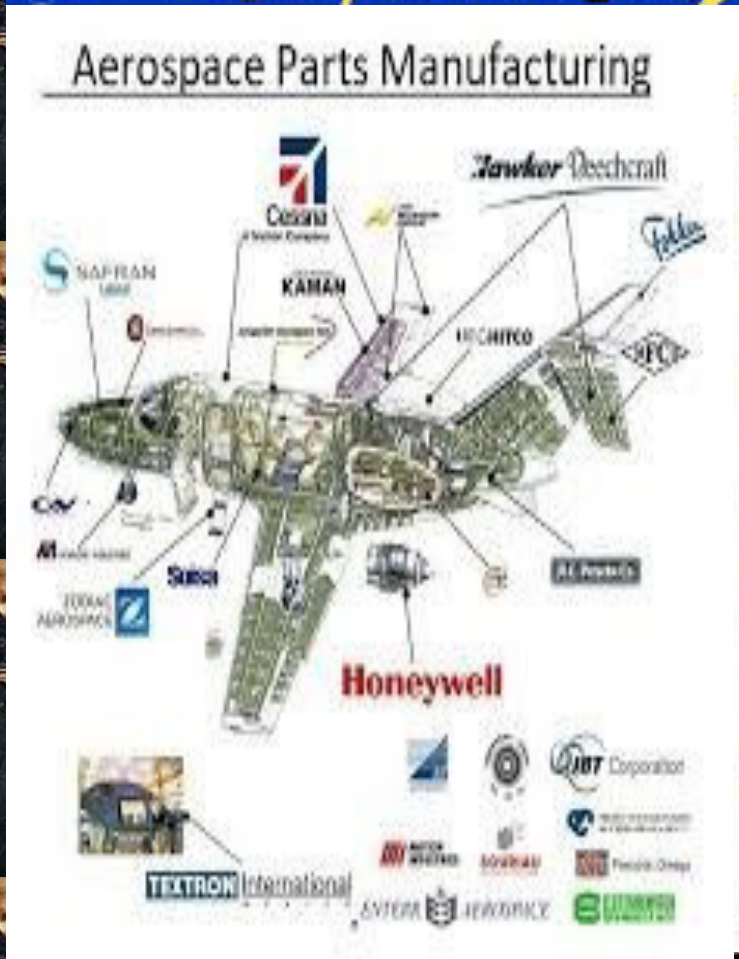
IndiGo Fleet

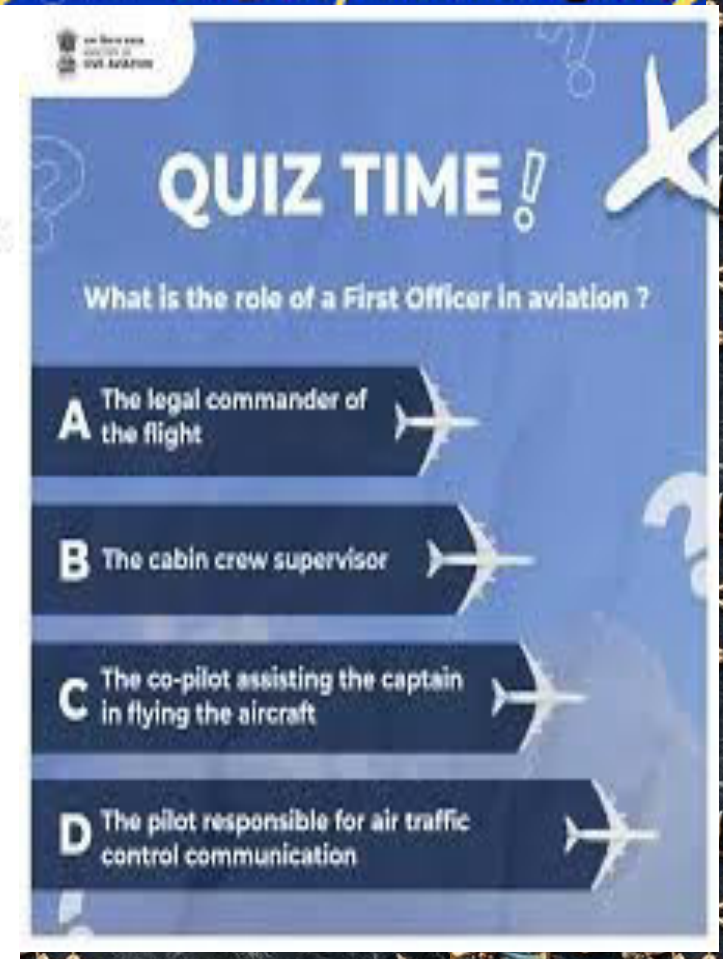
IndiGo Operates a Fleet of 367 aircraft which includes 42 ATRs, 223 A320 family jets, 97 A321s and at last 2 Boeing 777s

Multiple Hubs

IndiGo aims to establish multiple hubs across the country, offering direct connectivity to distant destinations from various metro cities using Airbus A350 and A321 XLR.

Aviation A2z ©





Editorial Board

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