


# EXCEL ENGINEERING COLLEGE (Autonomous) KOMARAPALAYM-637303

## DEPARTMENT OF AERONAUTICAL ENGINEERING ARHAKRZ 2K23- 24 Q1

VOLUME I ISSUE 1	CHAIRMAN'S MESSAGE	VICE-CHAIRMAN'S MESSAGE	PRINCIPAL'S MESSAGE
<b>VISION</b>			
To empower the student s subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment			
<b>MISSION</b>			
<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 Aeronautical engineers.</p> <p>To initiate desires for under taking entrepreneurship and lifelong learning.</p>	<p>The Aeronautical Engineering Department continues to make remarkable strides in innovation and technology. With a strong foundation in aerodynamics, propulsion, avionics, and space technology, we prepare students to excel in this dynamic industry. Our dedicated faculty and hands-on learning approach ensure that students are equipped with the skills to tackle real-world challenges. I encourage students to stay curious, embrace advancements, and contribute to the future of aerospace engineering. Let us continue to strive for excellence and achieve new milestones.</p>	<p>The Aeronautical Engineering Department is dedicated to shaping future aerospace professionals through innovation, research, and technical excellence. With advancements in aviation and space exploration, our students have immense opportunities to contribute to this ever-evolving field. Our experienced faculty and industry-focused curriculum provide a strong foundation in aerodynamics, propulsion, and avionics. I encourage students to stay committed, embrace challenges, and strive for excellence in their pursuits. Together, let us soar to new heights in aerospace engineering.</p>	<p>The Aeronautical Engineering Department plays a vital role in fostering innovation and technical excellence in the field of aviation and space exploration. With a strong curriculum, experienced faculty, and hands-on learning opportunities, we prepare students to meet industry challenges and drive future advancements. I encourage students to be inquisitive, embrace emerging technologies, and strive for excellence in their academic and professional journeys. Together, let us continue to achieve new milestones in aeronautical engineering</p>
	<b>Prof. Dr. A. K. NATESAN</b> M. Com., MBA., M. Phil.,	<b>Dr. N. MATHAN KARTHIK</b> M.B.B.S., M. H. Sc .,	<b>Dr. K. BOMMANNA RAJA</b> Ph.D.,

### HOD'S MESSAGES

### INDEX OF THE NEWSLETTER

<p>The Aeronautical Engineering Department is committed to providing a strong technical foundation and practical exposure to aspiring aerospace engineers. With a focus on innovation, research, and industry-oriented learning, we equip students with the skills needed to excel in aviation and space technology. Our dedicated faculty, state-of-the-art facilities, and hands-on projects ensure a comprehensive learning experience. I encourage students to be curious, proactive, and passionate about aeronautical advancements. Let us work together to achieve excellence and make meaningful contributions to the aerospace industry.</p> <p><b>Dr.K.Rajkumar Ph.D</b></p> 	DESCRIPTION	PAGE NO
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## DEPARTMENT NEWS

**Code of Conduct for Aeronautical Engineering has conducted in Smart room on 03.07.2023**

**Chief Guest:**

Dr. S. P. Venkatesan  
Head / Aeronautical Engineering  
Excel Engineering College,  
Komarapalayam .

**No. of participants: 120**



**Non –Academic Events: Speech Competition on “Rocket Man Dr.APJ Abdul Kalam” at GHSS, Komarapalayam on 25.07.2023**

**Chief Guest**

Mrs. Malarvizhi  
Head Mistress  
Government Hr Secondary school students,  
Komarapalayam .

**No. of participants: 50**



**Non –Academic Events on “Inter department Sports Meet ” at Excel indoor stadium on 05.08.2023**

**Chief Guest:**

Dr. S. P. Venkatesan  
Head / Aeronautical Engineering  
Excel Engineering College,  
Komarapalayam .

**No. of participants: 60**



**Awareness Programme on Environmental Pollution at smart room on 12.08.2023**

**Chief Guest:**

Dr. S. P. Venkatesan  
Head / Aeronautical Engineering  
Excel Engineering College,  
Komarapalayam .

**No. of participants: 55**





## DEPARTMENT ACTIVITY NEWS

Competitive exams and Higher Education cell –  
**“UPSC Civil Services & TNPSC Examinations”** on  
 19.08.2023 at Pavammayal Hall

### Chief Guest:

Dr.R.Shruthi, Dentist/Polity Faculty,  
 Shankar IAS Academy

Mr. T.Thilakraj, Branch Head,  
 Shankar IAS Academy

**No. of Participants: 212**



Industrial Guest Lecture on **“Finding Jobs in abroad /  
 agency scams and IBM Skills build cyber security”** on  
 23.08.2023 at Pavayammal Hall (A/C).

### Chief Guest

Nirmalkumar Palanisamy  
 IBM Cloud Site Reliability Engineer  
 IBM, Durbli.

**No. of Participants: 155**



Extension Activities – **Helmet Awareness Pro-  
 gramme** on 25.08.2023 at Komarapalyam.

### Chief Guest

Dr.P.Karunakaran  
 Professor, Aeronautical  
 Excel Engineering College

**No. of Participants: 54**



Industry Visit – Indian Space Research Organization  
**on 30.08.2023 at ISRO, IPRC Complex,**  
 Mahendragiri, India.

**No. of Participants: 100**

## DEPARTMENT ACTIVITY NEWS

Seminar on "Introduction to Intellectual Property Rights (IPR), Importance of IPR in Modern Global Economic Environment on 02.09.2023 at Dr. APJ Hall

### Chief Guest

Dr.M.P.Murugesan  
Associate Professor  
Innovation Ambassador  
Department of Food Technology  
Excel Engineering College  
**No. of Participants: 102**



FDP – Non teaching Workshop on Laboratory Maintenance on 11.09.2023 at Aero Hanger

### Chief Guest

Dr.P.Karunakaran  
Professor/ Aeronautical  
Excel Engineering College

**No. of Participants: 06**

Awareness Program guest on space mission planning and Launch of Aditya L1 Mission on 11.09.2023 at Simulator laboratory.

### Chief Guest

Dr.Prabhat phondekar,  
Technical Instructor,  
Dr.Rosy Subha Hannah,  
Design Engineer  
Pegasus Aerospace  
Erode



# ACTIVITIES



## Faculty Participation

### Research Paper publication

June to September 2023\*

S.No	Name of the Faculty	Title of the Paper	Journal Name	SCI/SCO PUS/UG C/Others	Publication Details
1	Mr. G Velmurugan	Experimental Study of Sugarcane Bagasse Fiber with Rice Husk and Wood Powder Polymer Matrix Compo-	Journal of Natural Fibers	SCI	Volume, 20, 2 Pages, 2224977, 2023.
2	Mr. S Karthik	Experimental Investigation of WE43 (T6) magnesium metal matrix composites to enhance mechanical properties and EDM process parameters.	International Journal of Electrochemical Science	SCI	Volume, 19 Issue 5 Pages, 100553. 2024
3	Mr. Prashanth	ESBL producing ability of Salmonella species isolated from animals, birds and environmental source.	The Pharma Innovation Journal	Scopus	12(5): 1946-1949, 2023
4	Mr. Prashanth	Quantification of biofilm forming ability of Salmonella species at different time interval.	The Pharma Innovation Journal	Scopus	2023; SP-12(9): 2570-2572.

### Program Fund Received

S. No.	Name of the Faculty	Funding Agency	Amount in Rs.	Duration
1	Mr. G. Velumurugan	SERB (ANRF)-Seminar	100000/-	3 Days
2	Mr. K. Vijaybabu	SERB (ANRF)-Seminar	100000/-	3 Days

### Research Patent publication

**Mr. M. Sanjay** has published the patent title “.ROBOT FOR CROP MONITORING (401686-001)” -Design Patent.

## Faculty column

### Faculty participation in various Events

SL. No.	Name of the faculty	Designation	FDP / Seminar / Conference / Workshop / Webinar / NPTEL / Online course Industrial / Training
1	Dr.S.P.Venkatesan	HoD	1
2	Dr.P.Karunakaran	Professor	1
3	Dr.A.Karthikeyan	Asso. Professor	1
4	Dr.S.Prashanth	Asst. professor	1
5	Dr.M.Gowtham	Asst. professor	1
6	Mr.P.V.Prakaash	Asst. professor	1
7	Mr.K.Vijaybabu	Asst. professor	1
8	Mr.N.Sreenivasaraja	Asst. professor	1

## Reading page

### Supply Chain Challenges Persist

The aerospace sector continued to grapple with significant supply chain disruptions, leading to delays in aircraft deliveries. Airbus and Boeing faced extended lead times for critical components, such as aerospace-grade titanium and windshields, with some parts experiencing price surges of 20–30%. These issues are anticipated to take up to two years to resolve, impacting the industry's post-pandemic recovery.

### Strong Financial Performance in Defence Sector

Lockheed Martin reported robust financial results for Q3 2023, with a net income of \$1.68 billion and revenues surpassing expectations at \$16.88 billion. The company projected full-year earnings between \$27 and \$27.20 per share, indicating strong demand in the defence sector.

### Cyber security Focus Intensifies

Cyber security remained a critical concern, with the aerospace, defence, and security sectors experiencing a 24% drop in mentions of cyber security in company filings during Q3 2023 compared to the previous quarter. Despite this decrease, the importance of cyber security was underscored by increased references from companies like BAE Systems and Thales, highlighting ongoing efforts to bolster defences against cyber threats.

### UK-EU Defence Collaboration Strengthens

In response to geopolitical tensions and the re-election of U.S. President Donald Trump, the UK and EU moved towards a new defence and security pact. This agreement aimed to reintegrate UK companies into EU defence projects, granting access to procurement funds and fostering collaboration on advanced technologies like drones and complex weapons.

# STUDENTS ACTIVITES

## Activity participation\*

Sl.No	Nature of Events	Participants
1	Workshop	10
2	Seminar	12
3	Symposium	10
4	Other	08
	Total	40



## Placement Details\*

Sl. No	Name of the Company	Number of Students Placed
1	Intellipaat, Bangalore.	1
2	Skill Forge, Bangalore.	6
3	Evoriea infotech Ltd, Bangalore.	16
4	Tech mahindra, Chennai.	3



# Activity for Brain


## INTERROGATIVE PRONOUNS

How many \_\_\_\_\_ is Marcy going to the U.S?  
Which \_\_\_\_\_ She is going next month.

Who  
Whose  
When  
How much  
How old  
How  
Where  
What  
Why



## Guess The Airplane!



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

## Aviation Quiz!

## Can you Solve this?

$\blacktriangle + \blacksquare + \bullet = 12$   
 $\bullet + \bullet = 10$   
 $2 \blacksquare + \bullet = 11$   
 $\bullet = ?, \blacksquare = ?, \blacktriangle = ?$

Share if you could solve it!!!

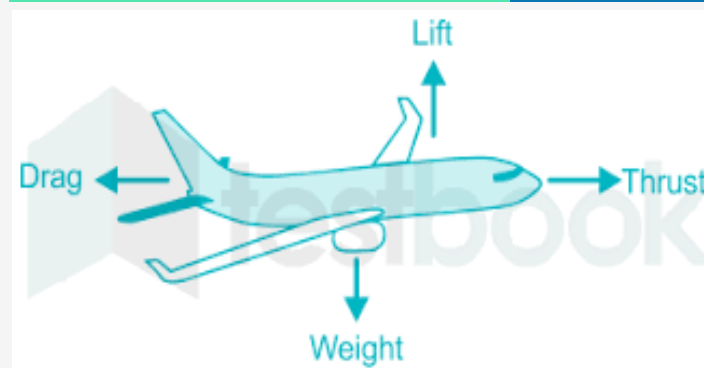
## WHICH NUMBER REPLACES THE QUESTION MARK ?



IE

## Can you solve this ?

$\text{Happy Face} + \text{Sad Face} = 13$   
 $\text{Happy Face} \times \text{Sad Face} = 42$   
 $\text{Sad Face} - \text{Happy Face} = 1$   
 $\text{Sad Face} = ?$





## 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 outcome

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.

## RECENT TREND IN AEROSPACE ENGINEERING

### Advancements in Sustainable Aviation

- \* Increased focus on **hydrogen-powered aircraft** and **electric propulsion systems** to reduce carbon emissions.
- \* Boeing, Airbus, and startups like Zero Avia continued developing hydrogen-electric engines.
- \* **Sustainable Aviation Fuel (SAF)** adoption gained momentum with increased airline partnerships.

### Growth in Space Exploration and Commercial Spaceflight

- \* **India's Chandrayaan-3** successfully landed on the Moon's south pole on **August 23, 2023**, marking a significant milestone.
- \* **NASA's Artemis Program** continued preparations for its upcoming lunar missions.
- \* **SpaceX's Starship** underwent further testing for deep-space travel.

### AI and Automation in Aerospace

- \* AI-driven **predictive maintenance** improved aircraft safety and efficiency.
- \* Autonomous flight technologies and AI-powered air traffic management gained traction.

### Defence and Hypersonic Technology

- \* Nations invested in **hypersonic weapons and aircraft** for defence applications.
- \* **The U.S. and China tested advanced hypersonic systems**, emphasizing **high-speed military aviation**.

### Urban Air Mobility (UAM) and eVTOL Aircraft

- \* **Electric Vertical Take off and Landing (eVTOL)** aircraft saw increased investment, with companies like Joby Aviation and Archer conducting test flights.
- \* Cities planned for future **air taxi services**, aiming for commercialization by the late 2020s.



# Editorial Board

## CHIEF EDITOR AND ASSOCIATE EDITOR

**Dr. K. RAJKUMAR**

HEAD OF THE DEPARTMENT

**Mr. M. SANJAY**

ASSISTANT PROFESSOR

### ASSOCIATE EDITOR'S

M. Sanjay - AP/Aero

S. Karthik – AP/Aero

Dr.M.Gowtham—AP/Aero



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Harish G S –II Year Aero

Evangeline Christina - III year Aero

Ashika K V –IV year Aero



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