

# Expert Talk

by

**Prof. C K Mohapatra**  
**President of Odisha Mathematical Society**

*Organized by*

**School of Engineering and Technology, Bhubaneswar**  
**Centurion University of Technology and Management, Odisha**

**Event:** Expert Talk

**Topic:** Mathematics: The Foundation of Engineering Excellence

**Date:** 21<sup>st</sup> August 2024

**Time:** 11:00am - 12:00noon

**Venue:** Kautilya Building (CUTM-BBSR Campus)

**Guest:** **Prof. C K Mohapatra**, President of Odisha Mathematical Society

## **Members Present:**

1. Dr. Supriya Pattanayak (VC-CUTM)
2. Prof. Jagannath Padhi (Director)
3. Dr. Biswajit Mishra (Pro-VC, Academics)
4. Dr. Ajay Kumar Nayak (Pro-VC, Administration)
5. Dr. Sujata Chakravarty (Dean-SoET)
6. All Hod's and Faculties of SoET
7. B-tech 1<sup>st</sup> year Students

## **Opening:**

On the 21<sup>st</sup> of August 2024, the School of Engineering and Technology at Centurion University of Technology and Management, Bhubaneswar, hosted an enlightening expert talk by Prof. C K Mohapatra, the esteemed President of the Odisha Mathematical Society. The event, titled "Mathematics: The Foundation of Engineering Excellence," sought to emphasize the indispensable role of mathematics in the field of engineering. Prof. C K Mohapatra's lecture was a deep dive into the ways in which mathematical principles underpin and enhance engineering practices, ultimately driving innovation and excellence. This session aimed to reinforce the idea that a strong foundation in mathematics is crucial for any aspiring engineer who seeks to excel in their career.

### **Main topics of discussion:**

Prof. C K Mohapatra began by exploring the historical context of mathematics in engineering, tracing its roots from ancient civilizations to modern-day applications. He illustrated how mathematical concepts have been integral to ground breaking engineering feats, from the construction of the pyramids to the development of modern computing technologies. He emphasized that mathematics is not just a tool but the very language of engineering, enabling precision, efficiency, and creativity in solving complex problems.

The discussion then moved to the practical applications of mathematics in various engineering disciplines. Prof. C K Mohapatra highlighted how mathematical modeling, statistical analysis, and algorithm development are essential in fields like civil engineering, electrical engineering, and computer science. He provided insights into how advanced mathematical techniques, such as calculus, linear algebra, and differential equations, are employed to design and optimize engineering systems. Through real-world examples, he demonstrated the critical role of mathematics in improving the safety, functionality, and sustainability of engineering projects.

Prof. C K Mohapatra also addressed the challenges faced by students in mastering mathematical concepts, particularly those perceived as abstract or difficult. He offered strategies for overcoming these challenges, such as emphasizing the practical relevance of mathematical theories and fostering a problem-solving mindset. He encouraged students to view mathematics as a powerful tool that can simplify and solve complex engineering challenges rather than as an obstacle.

### **Suggestions:**

Prof. C K Mohapatra provided several key recommendations to further strengthen the integration of mathematics in engineering education. He suggested that engineering curricula be continuously updated to reflect the latest advancements in mathematical techniques and their applications in modern engineering. He also advocated for the inclusion of interdisciplinary courses that bridge the gap between theoretical mathematics and practical engineering.

Moreover, Prof. C K Mohapatra recommended the promotion of research initiatives that explore new mathematical methods for solving emerging engineering problems. He emphasized the importance of creating a collaborative environment where mathematicians and engineers can work together to innovate and address real-world challenges. Additionally, he suggested that educational institutions provide more resources and support for students struggling with mathematics, such as tutoring programs and interactive learning tools.

## **Acknowledgements:**

The School of Engineering and Technology, Bhubaneswar, extends its heartfelt gratitude to Prof. C K Mohapatra, for delivering such an insightful and inspiring lecture. His expertise and passion for mathematics have left a lasting impression on the students and faculty, highlighting the vital connection between mathematics and engineering. We would also like to thank all participants for their active involvement and thought-provoking questions, which contributed to the success of the event. The knowledge and perspectives gained from this talk will undoubtedly inspire students to embrace mathematics as a fundamental pillar of their engineering education and future careers.

## **Event Snapshots:**

The poster features a white background with a dark blue header and footer. At the top left is the Centurion University logo, and at the top right is the NAAC A+ accreditation logo. The main text is centered, with the title in large blue and red fonts. A portrait of Prof. C. K. Mohapatra is centered below the title. The date and time are listed in yellow and white text on a dark blue background at the bottom left, and the venue is listed in white text on a dark blue background at the bottom right. The footer contains the university's name and a list of campuses.

**CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, BHUBANESWAR, ODISHA**

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**EXPERT TALK**  
**ON**  
**"MATHEMATICS: THE FOUNDATION OF ENGINEERING EXCELLENCE"**

**BY**



**PROF. C. K. MOHAPATRA**  
President of Odisha Mathematical Society

**DATE: 21<sup>st</sup> August 2024**  
**TIME: 11:00 AM - 12:00 Noon**

**VENUE:**  
**KAUTILYA BUILDING,**  
**BHUBANESWAR CAMPUS**

Centurion University of Technology and Management, Odisha  
CAMPUSES: Paralakhemundi | Bhubaneswar | Rayagada | Balangir | Balasore | Chatrapur





