



**FRANCIS XAVIER**<sup>™</sup>  
**ENGINEERING COLLEGE**  
**AN AUTONOMOUS INSTITUTION**

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## DEPARTMENT OF MECHANICAL ENGINEERING

### MONTHLY NEWS – DECEMBER 2022

#### **About Department of Mechanical Engineering**

The department offers UG program in B.E Mechanical engineering from the year 2005. The department started a PG program M.E Industrial Safety Engineering from this academic year 2018-2019. This course has wide range of job opportunity in the Industrial and Academic sector of India as well as abroad. The Department aims at providing the students with a perfect blend of intellectual and practical experiences with the support state-of-the-art laboratories and well-defined academic structure. The UG program is accredited by National Board of Accreditation (NBA). The special feature of the Department has established three applied laboratories, in addition to the regular labs to support students to master skills to make each one industry-ready, with a solid grounding in the principles and practice of Mechanical Engineering. We also have a strong academy for training students to appear for GATE exam.

#### **Vision of the Department**

To produce competent Mechanical Engineers of excellent technical and managerial skills with profound morality for global, national and confront societal development.

#### **Mission of the Department**

1. To provide quality education in Mechanical Engineering with an interdisciplinary approach, encouraging innovation, research, and Entrepreneurship through world-class infrastructure and proficient teachers.
2. To make the department self-reliant through multiple programs with excellent curricula, best practices, and industry exposure.
3. To inculcate technical, professional, and leadership skills, moral ethics, and lifelong learning.

## Programme Educational Outcomes

The Bachelor of Mechanical Engineering curriculum is designed to impart Knowledge, Skill, and Attitude to the graduates to

PEO 1: Have a successful professional career in Mechanical Engineering and allied industries, either by employment or through entrepreneurship.

PEO 2: Establish competency in Design, Thermal, Materials, and Manufacturing system with ethics and social responsibility.

PEO 3: Have a continual receptiveness for leadership and social challenges.

## Message from the Head of the Department

**Dear Colleagues,  
Greetings!**

I have great pleasure and pride to announce that the Department of Mechanical Engineering is publishing the newsletter for the month of December 2022. Amidst the Covid Pandemic situation, we strived hard to keep the students engaged, and utilize the time not only for quality education and for self-development. We are steadfast in our progress as it involved various activities that enabled the hidden talents of the department students and faculty members to be brought into light. Besides the lockdown, our faculty members are continuously attending various training programs, publishing research papers, book chapters and are also working on getting patents.

This newsletter is the reflection of department activities which showcases all the events held in the department, contribution of faculty members, students and the best practices adopted. I would like to congratulate all the members of the editorial board for their sincere effort to realize this venture.



**Dr. R. Samuel Hansen, M.E., Ph.D.**  
Professor & Head  
[samuel\\_hansen@rediffmail.com](mailto:samuel_hansen@rediffmail.com)

## EDITORIAL BOARD

Dr. R. Samuel Hansen, Professor & Head of Department, Editor – in – Chief.

Dr. S. Balakrishnan, Assistant Professor, Mechanical Department, Faculty In charge.

# SEMINAR

A “Expert Talk on Recent Trends in Design Thinking & Innovation” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 30th December, 2022 at 01:30 pm to 04.30 pm. The program was held via offline mode. Dr. S. Balakrishnan, AP/Mech inaugurated the session with welcome address.

Dr.R.K.A.Bhalaji, AP/Mech, Francis Xavier Engineering College, Tirunelveli was the resource person. First of all resource person discussed about the definition of design thinking and its significance and also industrial types of innovation. Next he shared the more ideas about six steps related to design thinking such as empathize, define, ideate, prototype, test & implement with suitable examples like zomato, OLA, i phone etc. Additionally, he showed the case study about recent trends in design thinking & innovation such as uber eats & modern rest room. For instance, uber wanted to find customized and affordable food delivery at the tap of a button. Regarding this we need to gather ideas, highlight the gaps and define problems, gather ideas by brainstorming build potential solutions & send for testing, get user feedback and iterate the model for the purpose of effective design thinking and innovation.

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Vannarpettai, Tirunelveli

**EXPERT TALK ON RECENT TRENDS IN DESIGN THINKING AND INNOVATION**

organized by  
Entrepreneurship Development Cell (EDC)  
in association with  
Department of Mechanical Engineering

DATE: DEC 30, 2022  
TIME: 1.30 PM TO 4.30PM

CO-ORDINATOR  
DR. S. BALAKRISHNAN AP/MECH  
CONVENER  
DR. R. SAMUEL HANSEN HOD/MECH  
DIRECTOR EDC & IIC PRESIDENT  
DR. LOURDES POOPALA RAYEN  
GM DEVELOPMENT  
DR. K. JEYAKUMAR  
PRINCIPAL  
DR. V. VELMURUGAN

RESOURCE PERSON  
DR. R. K. A. BHALAJI  
AP/MECH, FXEC



# INDUSTRY CONNECT AND TECHNOLOGY INTERVENTION

## Industrial Connect

- Exposure Visit to Industries
- Industrial Training
- Interaction with the Startup Founders and Company Executives

## Pottery Cluster Technology Intervention

- Visit to the Clay Pottery Cluster unit for assessing the problems faced by the Pottery Cluster
- Demonstration of mechanization in the process of pottery making with MSME Officials at MSME Office.
- Presentation of pottery cluster technology intervention to the MSME and NABARD Officials.

## Technology Intervention

- Project-1: Development of moisture control unit of Kiln
- Project-2: Arresting of break-down caused by Cooling coil return on chiller feed-collector system.
- Project -3: Automation of ID fan control for better kiln zonal temperature control
- Project 4: Waste to wealth
- Project 5: Conducting External Industrial Safety Audit

