FRANCIS XAVIER ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION
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DEPARTMENT OF MECHANICAL ENGINEERING

MONTHLY NEWS – NOVEMBER 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 November 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
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SEMINAR

A seminar on “E-Commerce Business Opportunities” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 04th December 2022 at 11:00 am to 12.00 pm. The program was held via offline mode. Dr. S. Balakrishnan, AP/Mech inaugurated the session with welcome address. Dr.R.K.A.Bhalaji, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. First, resource person outlined the growth and trends of e-commerce industry in world market and, he explained the key drivers for e-commerce growth such as wider customer reach, increasing internet penetration, lower operational costs and rise in demand for global product. Regarding e-commerce environment he discussed about partners, competitors, communities, customers, clients etc. In addition to this, he showed the model for e-commerce business and defined about marketing strategy, participants, features, marketing solutions and challenges in e-commerce. Finally, he revealed the e-commerce business opportunities as per recent trends in world market with real time examples.

SEMINAR

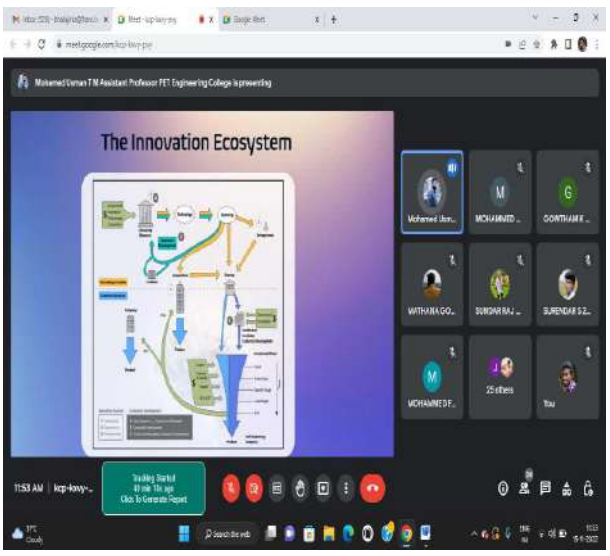
A "Creation of wealth from waste: An Entrepreneurial Venture" was organized by Entrepreneurship Development Cell & Institution's Innovation Council in association with the Department of Mechanical Engineering on 11th November, 2022 at 11:00 am to 12.00 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the session with welcome address.

Mr.T.Abraham Jebamani Raj, Third Year Student, Department of Mechanical Engineering, FXEC was the resource person. First of all resource person discussed about types of wastes according to their properties and effects on human health and environment and also outlined the sources of wastes such as households, agriculture, electronics, commerce and industry. He showed the graphical representation about waste generation by country as well as waste generation in India. Regarding waste management, resource person revealed about how to convert waste such as paper, cloth, plastics, coconut leaf stalk & areca leaf into useful products using reuse and recycle concepts. Additionally, he said how to become a successful entrepreneur using waste management process for instance. a) Convert waste areca leaf & coconut leaf stalk into cups, plate's etc. b) Convert waste plastics into useful household items c) convert wastepaper into book notes etc. d) convert waste leaves into decorative items for homes, office, vehicles etc.

WEBINAR

A “Innovation Ecosystem for Entrepreneurship” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 15th November 2022 at 11:00 am to 12.00 pm. The program was held via online mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the session with welcome address.

Mr.T.M.Mohamed Usman, HOD/Civil & IIC President, PET Engineering College, Tirunelveli was the resource person. First of all, resource person discussed about the definition of innovation ecosystem with suitable example and why innovation ecosystem is important in an environment using key elements such as research, develop, design & produce. Regarding innovative ecosystem product, resource person said that modern innovators are a team includes designers, software developers, consultants, financiers etc. He outlined the growth and trends of innovative ecosystem products and why ecosystems matter using the real time examples (hybrid e-vehicle). Additionally, he revealed the flowchart for innovation ecosystem and described the prerequisites for successful innovation communities. Finally, he explained the role of innovation in entrepreneurship such as persistent improvement, reinforcing the brand, making the best of your existing product and revealed the DNA of innovation ecosystem entrepreneurship.



INDUSTRIAL VISIT

A batch of 44 third year students and two faculties from the Department of Mechanical Engineering, Francis Xavier Engineering college visited the "Dharangadhara Chemical Works Limited" DCW, Tuticorin on the 12th of November 2022. Dharangadhara Chemical Works Limited is situated in Tamil Nadu on the Tuticorin-Tiruchendur State Highway about 4 km north of Tiruchendur. The factory together with the township facilities and salt fields covers a total area of about 2,500 Acres. DCW is the leading manufacturer of a range of export quality products from Caustic Soda, Liquid Chlorine, Trichloroethylene, Hydrochloric Acid, Synthetic Rutile, Yellow Iron Oxide, Utox Ferric Chloride, and PVC Resin. Apart from the chemical products, DCW produces 150,000TPA of industrial salt for captive consumption. The Company also runs a 36MW furnace oil based Captive Power Plant and a 58.3MW coal-based Cogen Plant as it has power intensive manufacturing processes. DCW has an installation near the Tuticorin Port for storing Vinyl Chloride Monomer, the imported raw material used in the manufacture of PVC Resin.

This visit to DCW has certainly instilled an irrefutable and curious mindset among the students. The view of the glaring sunset on the beaches of Tuticorin at the coast of Bay of Bengal was a banquet to watch and acknowledge the mother nature. The visit to the shore based Tiruchendur Murugan Temple infused mental healing and moral psychology of hope.

INDUSTRIAL VISIT

A batch of 49 final year students and two faculty members from the Department of Mechanical Engineering, Francis Xavier Engineering college visited the “Tuticorin Thermal Power Station” TTPS, Tuticorin on the 10th of November, 2022. TTPS is a coal based thermal power plant situated near Newport of Tuticorin, Tamil Nadu (8°45′51″N 78°10′36″E) which is 8 km from Tuticorin main town . The first unit of TTPS was commissioned in the year 1979 and at present it has 5 units with a total installed capacity of 1,050 MW (5 x 210 MW) and spread over 160 hectares. The plant uses Bituminous coal procured from West Bengal, Bihar, Orissa coal fields and imported coal from Indonesia and Russia. The coal is transported by sea through ship from Haldia, Paradeep, Vizag Port to TTPS.

The visit has infused a positive and curious mindset to the student and staff team. The view of the dazzling sunset on the saltpans of Tuticorin at the coast of Bay of Bengal was a feast to the eyes which filled lots of hope for a sunrise and life thereafter. The visit to the holy shrine of “Our Lady of Snows Basilica” infused mental healing.