FRANCIS XAVIER ENGINEERING COLLEGE

Department of Electronics & Communication Engineering

Newsletter (2024-2025 ODD Semester)

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DEPARTMENT VISION

To develop Electronics and Communication Engineers by permeating with proficient morals, to be recognized as an adroit engineer worldwide and to strive endlessly for excellence to meet the confronts of our modern society by equipping them with changing technologies, professionalism, creativity research, employability, analytical, practical skills and to excel as a successful entrepreneur.

DEPARTMENT MISSION

1. To provide excellence through effective and qualitative teaching- learning process that equips the students with adequate knowledge and to transform the students' lives by nurturing the human values to serve as a precious resource for Electronics and Communication Engineering and nation.

2. To enhance the problem solving and lifelong learning skills that will enable by edifying the students to pursue higher studies and career in research.

3. To create students with effective communication skills, the abilities to lead a ethical values in order to fulfil the social needs.

STATEMENT OF PSOs

PSO1: Design, Implement and Test Embedded and VLSI systems using state of the art

components and software tools.

PSO2: Design and develop the signal processing and communication systems for the real time application.

STATEMENT OF PEOs

PEO1: Acquiring Quality Education:
To develop in the students the ability to acquire adequate knowledge on all aspects of Engineering and continue to develop professionally through lifelong learning which would spark an interest for higher studies and cutting-edge research.

PEO2: Developing Multi-skills & professionalism:
To provide ability in dynamic leadership skills, powerful Discerning & Decision making and communication skills with amicable team spirit and ethical responsibility.

PEO3: Contemporary learning:
To get equipped with skills in trending technologies in industries, which delivers excellent job prospects and kindles the spirit of entrepreneurship

EDITOR: Mrs. J. Friska AP/ECE
CO EDITOR: Mrs. E. Francy Irudaya Rani AP/ECE
Student Editor : Jeffrin & Aswini

FRENCH LANGUAGE SKILL TRAINING

French Language speaking and writing skill training was organized by Training and Skills Development, FXEC for the benefit of AI & DS, CIVIL, CSBS, CSE, ECE, EEE, IT, MBA, MCA, MECH Students from 03.11.2023 to 27.04.2024 in FX 302, FX block. The trainer for this training was Sr.Bernadette Vijaya Antony, the French language certified trainer. The Topics covered in the training session are Alphabets Pronunciation, Numbers, Nouns, Pronouns, Grammer, Dialog conversation,

Basic knowledge total number of students 62 from AI & DS=5, Civil=01, CSBS=3, CSE=24, ECE=14, EEE=3, Mechanical=12 studentsregistered, attended the training program and attended French Language examination. Mr.Hariharan Siva, Founder, Zing Languages, Coimbatore acted as external examiner for the French examination conducted on 29.04.2024. Thank You. The training program was convened by Dr. S.Balaji, Dean/ Training and Skills Development, Coordinated by Dr. Y. Harold Robinson, Prof./CSE and Dr. S. Allwin Devaraj, ASP/ECE.

Webinar on Trends and Opportunities in VLSI, RF and IoT

A interactive session was conducted by the Department of ECE on 25-04-2024 from 06.30 pm to 08.30 pm. The resource person for the session was Dr. Swetha Amit, Sr. HF Application Engineer, Shivaprasad BK, Senior Field Application Engineer, Vikas Gowda, IOT Application Engineer, Entuple Technologies, Bangalore. The topic of the interactive session was Trends and Opportunities on RF and Antenna Technologies, Healthcare Monitoring with Electronic Devices, Job Profiles in RF and Antenna domain, Internet of things, Top players in Internet of Things, IoT Certification Programs, Disruptive Industry Trends, 75 years of transistor evaluation, VLSI Design Job Profiles, Key Skills for Jobs in VLSI, ESDM and Emerging Technologies and VLSI Ecosystem. Total of 146 students from I,II,III and IV year ECE Department students registered and attended the webinar.

After his lecture, the students were given time to interact with him. Students felt that the session was more informative and interactive. At the end of the interactive session, two students gave their feedback and explained how they were benefited. This event was organized by Department of Electronics and Communication Engineering. Dr.S.Allwin Devaraj, ASP/ECE was the coordinator for this event. Mrs.J.Friska , HOD/ECE was the Convener for the event

ORIENTATION PROGRAM – II ON NATIONAL INNOVATION AND STARTUP POLICY (NISP)

On 12.07.24 an orientation program on National Innovation and Startup Policy (NISP) of the Ministry of Education's Innovation Cell (MIC) under the IIC Mentor Mentee scheme was organized by the IIC unit of Francis Xavier Engineering College (Mentoring Institution). The orientation session was handled by Dr Lourdes Poobala Rayen, IIC President of FXEC & Dr G Rajakumar, IIC Vice President, FXEC. This event was coordinated by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC, Tirunelveli. During the session, Dr Lourdes Poobala Rayen explained the Guidelines for Implementation in the NISP Portal for the Mentee institutions and listed out the essential steps and best practices for effectively using the NISP Portal to achieve the objectives of the National Innovation and Startup Policy (NISP). He

asked the Mentee Institution to register on the NISP Portal by creating a user account with institutional details and asked the mentee institution staff to read NISP policy documents available on the portal to understand the framework, objectives, and implementation strategies. The resource person also highlighted on Account Creation Page, Policy Documents Section, Startup Registration Form, Resource Directory, Innovation Challenges Page, Training and Workshop Listings, Networking Profile Setup, Progress Tracking Dashboard, Feedback Submission Form and Compliance Documentation Guidelines. During the second session, Dr G Rajakumar, IIC Vice President, provided comprehensive knowledge about the NISP framework, its objectives, and its benefits and explained the primary objectives of NISP in fostering innovation and entrepreneurship within educational institutions. The speaker requested mentee institutions to create a startup ecosystem by highlighting the role of educational institutions in building a robust startup ecosystem and also shared the success stories of our college student's startups and said that have thrived under the NISP framework.
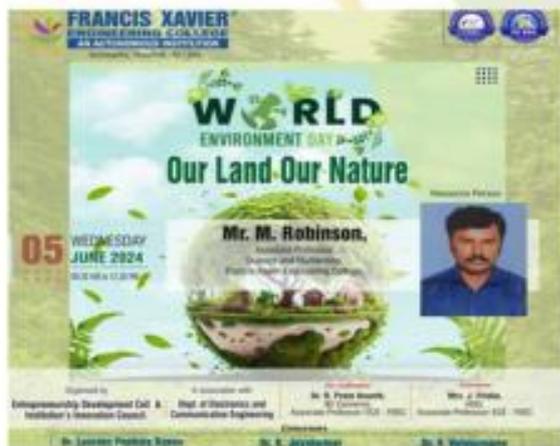
EXPERT TALK ON WORLD ENVIRONMENT DAY "OUR LAND OUR NATURE"

On 05.06.2024, an Expert Talk on World Environment Day "Our Land Our Nature" was organized by the Entrepreneurship Development Cell and IIC in association with the Department of Electronics and Communication Engineering. The session was handled by Mr. M. Robinson, AP/Chemistry, FXEC, Tirunelveli from 09.30 AM - 12.30 PM. A total of 46 students and 2 faculty members participated. This event was conducted with the guidance of Dr. Lourdes Poobala Rayen, EDC Director and was coordinated by Dr R Prem Ananth AP/ECE. The program started with the welcome address by Dr R Prem Ananth, IIC Convenor and said that World Environmental Day was celebrated annually on June 5th, which aims to raise global awareness and encourage action for environmental protection and emphasized the importance of preserving natural habitats and biodiversity for the health of our planet and future generations. The guest speaker Mr. M. Robinson started his speech by providing an overview of the current state of global land resources, emphasizing the alarming rates of deforestation, soil degradation, and loss of biodiversity. The speaker emphasized the importance of Biodiversity by providing essential services, such as clean air and water, pollination of crops and climate regulation.

He highlighted the Sustainable Land Management practices that can help mitigate environmental damage. He highlighted successful initiatives around the world, including reforestation projects, sustainable agriculture practices, and community-led conservation efforts and elaborated how changes in land used to contribute to greenhouse gas emissions and how sustainable practices can help combat climate change. He concluded the session by urging the policymakers to implement and enforce environmental regulations, encourage businesses to adopt sustainable

PROGRESS MONITORING AND IMPACT MEASUREMENT FOR SCAD POLYTECHNIC COLLEGE – UNDER MENTOR MENTEE SCHEME 2023-24

On 02.8.24, Progress monitoring and impact measurement for SCAD Polytechnic College was organized by the IIC unit of Francis Xavier Engineering College (Mentor Institution). The progress monitoring and impact measurement was monitored by Dr Lourdes Poobala Rayen, IIC President, FXEC and Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC. The IIC president, Vice President, Convener and members of the Institution participated.

During the meeting, the IIC president Dr Lourdes Poobala Rayen asked the mentee institution to present the completed and uploaded IIC Calendar activities, Celebration Day activities, MIC driven activities and self-driven activities and provided a detailed explanation of I&E courses and how to gather relevant information from various departments, emphasizing that I & E courses should focus on Innovation, Entrepreneurship, Startups, and IPR. It was identified that the mentee institution lacked awareness of I&E courses, I&E Collaboration, the Yukti portal, and the management of pre-incubation and incubation centers. The IIC Convenor, Dr. R. Prem Ananth reviewed the mentee institution's portal and provided guidance on necessary corrections and explained how to navigate and use the Yukti portal, including registering Ideas, Innovations, Startups, and IPR. He also provided guidance on managing pre-incubation and incubation centers effectively. He requested the mentee institution to gather and document student and faculty achievements, along with innovations from their pre-incubation and incubation centers. The FN and AN sessions concluded with a question-and-answer segment, during which the faculties from the mentee institution expressed that they gained valuable knowledge in IIC and portal management, as well as useful tips for preparing the Annual Report.

He requested the mentee institution to gather and document student and faculty achievements, along with innovations from their pre-incubation and incubation centers. The FN and AN sessions concluded with a question-and-answer segment, during which the faculties from the mentee institution expressed that they gained valuable knowledge in IIC and portal management, as well as useful tips for preparing the Annual Report.

EMBEDDED AND IOT APPLIED LAB SKILL TRAINING ON RASPBERRY PICO 2040 WITH MICROPYTHON

The Embedded and IOT Applied lab conducted 4 days Training on Raspberry PICO 2040 with Micropython from 30/07/2024 to 05/08/2024. The training session was handled by Mrs.M.Radha,AP/ECE, Embedded and IOT Lab Incharge. On Day, the trainer imparted the importance of Applied lab and target for the students and encouraged each Student Special Interest Group (SSIG) to undertake projects that not only align with their specific interests but also contribute meaningfully to their respective fields and the wider community. This will help in understanding the diverse range of interests and areas of focus within our academic community. The students were imparted training on the basics of Raspberry Pi Pico 2040 and to set up the development environment for MicroPython which involved installing MicroPython firmware on the Pico and setting up Thonny IDE for writing and uploading Micro Python scripts. The students were given the simple "Hello, World!" script to ensure everything is working correctly.

On Day 2, Students focused on understanding the basics of MicroPython programming and controlling GPIO pins on the Pico 2040. Students wrote and executed simple scripts to toggle LEDs connected to various GPIO pins, experimenting with both digital input and output. This included writing scripts to blink an LED at different intervals and reading button presses to control the LED state and also explored the machine module, which provided access to GPIO functionality, PWM, and ADC. By the end of day 2, students had a good grasp of how to manipulate hardware through MicroPython and had created a basic interactive project involving an LED and a button.

On Day 3, students connected a DHT11 temperature and humidity sensor and wrote a MicroPython script to read sensor data. The script read temperature and humidity values and displayed them on the Thonny IDE console. Additionally, explored storing sensor data to a file on the Pico 2040's filesystem. On the final day of the training, students expanded the project to include more advanced features and communication protocols. The afternoon session was led by Dr. Jainul Fathima, Head, Department of Artificial Intelligence and Machine Learning (AI&ML). The training session was handled by Mrs. M.Radha , AP/ECE & Embedded and IOT applied lab in charge. The training session was organized by Dr. K. Lakshminarayanan, Vertical head/IAL and Dr.J.B Shajilin Loret, M Team Head/IAL under the guidance of Mr. K.Krishnakumar, GM (A) and Director of Industrial Applied Lab.

FX ASTRONOMY CLUB – POSTER MAKING COMPETITION

The Indian Space Programme, U R Rao Satellite Centre (URSC) has planned to conduct a poster making contest on behalf of National Space Day 2024. In this regard the Astronomy Club of FXEC Organized an Poster making contest titled 'Past, Present and Future of Space Technology and its Applications' on 08.08.2024 from 2.00 p.m. to 4.00 p.m. The aim of the competition is to encourage the participants to express their thoughts and knowledge on successful landing of Chandrayaan-3 lander on the surface of the Moon.A Total of 35 students registered and 15 students actively participated in the activity. The students' participants were asked to send the image file of the poster to nsdposter@ursc.gov.in on or before August 7, 2024. Students are also requested to attach a copy of the ID card issued by the college along with the posters. Mrs. Shala.F. John was the judge for the event. The following students are the winners : The first prize was won by B. Kinetha- III ECE A, second prize by K. Aswini —III ECE A and the third prize by M.Ajay Achari- II IT.

OUTREACH PROGRAM – VILLAGE VISIT TO PUTHUKURICHI, TIRUNELVELI

The Outreach Programme Team of Francis Xavier Engineering College organized a village visit with a motto "Skill for School Students and Villagers", on 20.08.2024 among the public and school students of Puthukurichi village from 9.00 am to 1.00 pm. The chief guest Mrs. Lilly, Headmistress of Primary school, Puthukurichi Village, Tirunelveli presided over the inaugural session and shared her welcoming words of positive gestures done by the students.

The visit was arranged under the guidance of M. Team Professors and SCAD Nirman Project Team, SCAD Group. Nearly 59 students from III year ECE A participated in the visit under the encouragement of our Principal Dr. V. Velmurugan. The visit was coordinated by Dr. R. Suman (ASP/Chemistry), Outreach and NSS Program Officer, and Mr. J. Zaharia Gabriel, Professor/Campus Manager with the support of the faculty members Dr. M.V. Rajee AP/ECE, Mrs. J. Vanitha AP/ECE and SCAD Nirman project team encouraged the students and staff members.

EXPERT TALK ON INTELLECTUAL PROPERTY RIGHTS IN CONSTRUCTION PROMOTING INNOVATION AND CREATIVITY

On 16th August 2024, Entrepreneurship Development Cell and IIC in association with the Department of Civil Engineering organized an "Expert Talk on Intellectual Property Rights in Construction Promoting Innovation and Creativity". Dr.R.Prem Ananth, IIC Convenor, AP/ECE, FXEC was the resource person. A total of 43 Civil Engineering Students attended the program. The session was coordinated by Mrs. P. Raja Priya, AP/Civil.

During the session, the resource person provided a comprehensive overview of intellectual property (IP) and its pivotal role in the construction industry. He began the session by defining the key concepts related to IP, including patents, copyrights, trademarks, and trade secrets. He also explained how these IP rights serve as tools for protecting innovations, which are crucial in a competitive and rapidly evolving field like construction. The resource person highlighted several case studies where IP protection led to significant advancements and competitive advantages in the construction sector. He emphasized that patents can safeguard new construction methods and technologies, while copyrights protect architectural designs and engineering drawings and trademarks, on the other hand, helps to establish and protect brand identity and reputation in the market. He also discussed the benefits of IP rights in fostering a culture of innovation. By securing IP, companies can confidently invest in research and development, knowing that their innovations are legally protected from infringement. This protection not only stimulates further creativity but also enhances the overall quality and safety of construction practices. The program concluded with a lively Q&A session where students actively engaged with him, raising questions about the practical applications of IP rights in their future careers.

INTER-DEPARTMENT PAPER PRESENTATION CONTEST

An IEEE professional society of the Department of Electronics and Communication Engineering conducted an Interdepartmental Paper Presentation contest on September 02, 2024, between 1.30 p.m. to 04.00 p.m. in the Communication lab, ECE Department, FXEC. The event brought together students from various departments. The presentation has fostered an environment of interdisciplinary learning and collaboration. The presentation featured 16 students, who showcased their cutting-edge ideas across multiple disciplines relevant to Intelligent sensors and systems in machine vision and control, robotics machine learning, and their application towards cybersecurity and logistics processes., etc. Ms. S. Agnes Joshy, AP/IT and Mrs. M. Radha, AP/ECE chaired as judges. The event was coordinated by Mrs. E. Francy Irudaya Rani, AP/ECE, under the guidance of the Prof. J. Friska, HOD/ECE.

SEMINAR ON EXPLORING PLACEMENT OPPORTUNITIES IN LEADING MNCS: A GUIDE FOR ECE FRESHERS

On 06.09.2024, Department of Electronics and Communication Engineering and FX Alumni Association of Francis Xavier Engineering College organized a seminar on "Exploring Placement Opportunities in Leading MNCs: A Guide for ECE Freshers." Er. Emmanuel Derek C, a Frontend Developer at Tata Consultancy Services, a distinguished alumnus was the resource person.

Mr. Emmanuel began the session by introducing his current role at TCS and sharing valuable insights into the career opportunities available for Electronics and Communication Engineering (ECE) students in both the core and software industries. During the session, the resource person highlighted the vast potential for ECE graduates in multinational companies (MNCs) and emphasized the growing demand for their expertise. He explained that MNCs not only look for technical skills related to electronics and communication but also value software proficiency, opening doors for ECE students in the software sector as well. He provided a detailed overview of various job roles, including positions in embedded systems, VLSI design, networking, and software development.

FX-IPR CLUB-QUIZ CONTEST ON UNDERSTANDING COPYRIGHTS, PATENTS, AND TRADEMARKS: PROTECTING INNOVATION AND CREATIVITY

To raise awareness among our aspiring inventors regarding intellectual property rights, the FX- IPR club organized a Quiz competition on "Understanding Copyrights, Patents, and Trademarks: Protecting Innovation and Creativity" on 23rd september, 2024. A total of 109 students actively participated. The quiz consisted of 25 questions covering various topics related to intellectual property rights, patents and copyrights.

Participants were given 15 seconds to complete each quiz, and the questions were of varying difficulty levels. Points were granted by the scoring system according to the accuracy of the answers. The event was coordinated by the student coordinators Nagarjuna, I ECE B & Mariappan, I ECE B. The first prize was secured by E.Ravi & Rakesh Babu, II CSE & S.Azhagumuthu & Kirubaharan R, II ECE. The session ended with the feedback of the students.

Navigating Career Pathways in Top MNCs: Placement Insights for ECE Freshers

On 06.09.2024 Department of Electronics and Communication Engineering and FX Alumni Association of Francis Xavier Engineering College organized a seminar on "Navigating Career Pathways in Top MNCs: Placement Insights for ECE Freshers." Er. Jebastin Jacob J, Tech Lead, Icanio Technologies was the resource person. A total of 55 students and 3 faculty members participated in the program. This event was coordinated by Dr R PremAnanth, AP/ ECE, Francis Xavier Engineering College.

The resource person started his session by introducing the range of roles available for ECE graduates in software, emphasizing that the opportunities are not limited to hardware and electronics but extend into software fields such as UI/UX Design, Front-End Development, Back-End Development, Cloud/DevOps, Testing, and Project Management/Business Support. Each domain offers distinct pathways and requires a specific set of skills. For UI/UX Design, he highlighted the importance of creativity and an understanding of user behavior, while for Front-End Development, proficiency in web technologies like HTML, CSS, and JavaScript is crucial. In Back-End Development, he emphasized knowledge of databases, server-side languages like Python, Java, or Node.js, and understanding of APIs. Jebastin also discussed the growing significance of Cloud/DevOps, explaining that as businesses shift towards cloud-based solutions, there is an increasing demand for professionals skilled in cloud platforms like AWS, Azure, and Google Cloud.

WORKSHOP ON ENTREPRENEURSHIP AND INNOVATION AS THE CAREER OPPORTUNITY

On 13.8.2024 a workshop was organized on "Entrepreneurship and innovation as the career Opportunity" by the Entrepreneurship Development Cell and IIC in association with the Electronics and Communication Engineering department. The session was handled by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC. A total of 256 students and 2 faculty members participated in the program. This event was coordinated by Mr Pradeep T Rajan, AP/ECE, FXEC. The program started with the resource person introduction by Mrs. Shala F John, AP/English and further added that the resource person's expertise and guidance will provide students with practical insights into the entrepreneurial journey, from idea generation to successful execution. She also emphasized the role of entrepreneurship in modern career development.

The guest speaker started the session and said entrepreneurship and innovation have become essential drivers of economic growth and societal progress. Entrepreneurs are individuals who take the risk of starting new businesses, with the aim of delivering solutions to existing market needs or creating new demand through innovative products and services. He explained that Innovation plays a key role in creating value by transforming creative ideas into practical applications, helping entrepreneurs differentiate themselves in competitive markets. The resource person highlighted three case studies in Entrepreneurship and Innovation such as OYO Rooms, Elon Musk and Tesla and Swiggy and highlighted real-world impact of entrepreneurship and innovation. The event served as a platform to foster entrepreneurial thinking among students, preparing them for the challenges and opportunities in the dynamic job market.

SVAC- MOBILE ROBOTICS FOR II YEAR ECE

FXEC Department of Electronics and Communication Engineering organized a Skill Based Value Added Course on Mobile Robotics for the II year ECE students from August 31, 2024, to September 11, 2024, providing hands-on experience and advanced knowledge to participants. This initiative was aimed at equipping students with the practical and theoretical understanding of robotics, which is rapidly becoming a vital technology in industries worldwide. These Nine days program covered a wide range of topics, including robotic hardware and software integration, sensors, actuators, control systems, autonomous navigation. The training concluded with a Test Project Evaluation by Prof. M. Radha, Dr. N.Hemalatha, Dr. Robinston Jeyasingh Swikker, Prof. Mary Sumita on September 11, 2024, where participants demonstrated their learned skills through various innovative projects. The evaluation served as a platform for showcasing the capabilities of the trainees, with each project assessed based on creativity, technical complexity, and real-world applicability. A total of 132 students actively participated in this training program. This program was organized by Dr. M. V. Rajee, AP/ECE, Mrs. Balammal@geetha, AP/ECE, Mrs. M. J. Amala, AP/ECE, and Ms. M. Aarthy, AP/ECE. The program was conducted with the guidance of Mrs. J. Friska, HoD/ECE, and Dr. S. Allwin Devaraj, Skill incharge/ECE.

SESSION ON ENTREPRENEURSHIP: A NATURAL CHOICE FOR THE ENGINEERS

On 19.9.2024, a session was organised on "Entrepreneurship: A Natural Choice for the Engineers" by the Entrepreneurship Development Cell and IIC in association with theDepartment of Electronics and Communication Engineering. The session was handled by Dr. Lourdes Poobala Rayen, IIC President, FXEC. A total of 230 students and 2 faculty members participated in the program. This event was coordinated by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE. Mrs. Shala F John, AP/English introduced the resource person, highlighting his expertise and guidance which would offer students valuable insights into the entrepreneurial journey, from idea generation to successful execution. The guest speaker began the session by explaining why engineers are inherently well-suited for entrepreneurship and emphasized that engineers are trained to approach problems methodically, which aligns with the entrepreneurial mindset of identifying problems and developing solutions. Their ability to innovate, coupled with a strong foundation in technology, makes them ideal candidates for launching startups, especially in industries driven by rapid technological advancements. He said how the engineering discipline equips individuals with the skills to build scalable and impactful solutions. The guest speaker highlighted the importance of leveraging technology in entrepreneurship, particularly in the current climate where digital transformation is reshaping industries. He stressed the need for engineers to think beyond traditional career paths and instead focus on how their technical skills could create value in new and emerging markets.

FX TOURISM AND WILDLIFE CLUB – POSTER-MAKING COMPETITION

FX Tourism and Wildlife Club organized a poster-making competition on "Celebrating Earth's Beauty: Travel, Explore, Protect" on 25.09.24. A total of 41 students registered and 27 participated in the competition. The event was coordinated by Mrs. S. Irudhaya Ananthi, AP/MCA. The participants displayed their poster with great enthusiasm, and Tryphena Tirzah R, MCA won the first prize, Maha Lakshmi S,

MCA secured the second prize and Vishalsrinithi M, MCA won the third prize. The event allowed students to explore tourist destinations while emphasising the importance of protecting these natural wonders and understanding the efforts made to preserve them.

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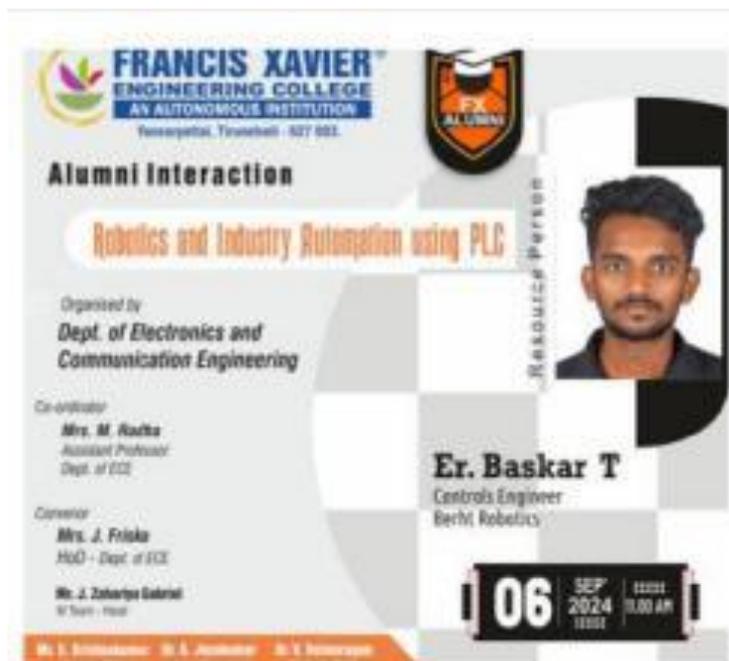## EXPERT TALK ON INTELLECTUAL PROPERTY RIGHTS IN CONSTRUCTION PROMOTING INNOVATION AND CREATIVITY

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ALUMNI INTERACTION ON ROBOTICS AND INDUSTRY AUTOMATION USING PLC

In collaboration with FX Alumni Association, the Department of Electronics and Communication Engineering (ECE) conducted an Alumni Interaction on "Robotics and Industry Automation using PLC" for final-year students on 6th September 2024. Er. Baskar T, Control Engineer at Berht Robotics and alumnus of the 2023 batch, FXEC was the guest speaker. A total of 75 students attended the session. The session was coordinated by Mrs. M. Radha, AP/ECE.

The main objective of this interaction was to provide students with an overview of the current trends and practices in the field of Robotics and Industrial Automation, with a special focus on Programmable Logic Controllers (PLC). The session aimed at bridging the gap between academic learning and practical industry applications and also to motivate students by showcasing the achievements of an alumnus. Er. Baskar T. shared his journey from an FXEC student to becoming a Control Engineer at Berht Robotics. He provided detailed insights into the growing importance of automation in industries and the role of PLCs in streamlining operations. The session delved into the applications of PLCs in automation, with specific examples drawn from Er. Baskar's experience at Berht Robotics. The session concluded with an interactive Q&A, where students raised questions about his professional experiences, the transition from academics to industry, and the future of robotics and automation. The interaction provided students with practical knowledge on the use of PLCs in industrial environments and offered guidance and insights into the challenges and opportunities in the field of automation and robotics.

SEMINAR ON EXPLORING PLACEMENT OPPORTUNITIES IN LEADING MNCS: A GUIDE FOR ECE FRESHERS

On 06.09.2024, Department of Electronics and Communication Engineering and FX Alumni Association of Francis Xavier Engineering College organized a seminar on "Exploring Placement Opportunities in Leading MNCs: A Guide for ECE Freshers." Er. Emmanuel Derek C, a Frontend Developer at Tata Consultancy Services, a distinguished alumnus was the resource person. Mr. Emmanuel began the session by introducing his current role at TCS and sharing valuable insights into the career opportunities available for Electronics and Communication Engineering (ECE) students in both the core and software industries. During the session, the resource person highlighted the vast potential for ECE graduates in multinational companies (MNCs) and emphasized the growing demand for their expertise. He explained that MNCs not only look for technical skills related to electronics and communication but also value software proficiency, opening doors for ECE students in the software sector as well. He provided a detailed overview of various job roles, including positions in embedded systems, VLSI design, networking, and software development.

Mr. Emmanuel also shared the key skills that students need to acquire in order to successfully crack interviews and secure placements. These include strong foundational knowledge in electronics, proficiency in programming languages like Python and C++, understanding of modern technologies like AI and IoT, and soft skills such as problem-solving, teamwork, and communication. He encouraged students to upskill and stay updated with industry trends to improve their employability. The session was interactive, with Emmanuel offering practical advice on how to prepare for interviews and make the most of internship opportunities. His insights provided a clear roadmap for ECE freshers looking to build successful careers in MNCs. A total of 55 students and 3 faculty members participated in the program. This event was coordinated by Dr R Prem Ananth, AP/ECE, FXEC.

SESSION ON "FROM IDEAS TO IMPACT: CULTIVATING CRITICAL THINKING FOR ENTREPRENEURIAL SUCCESS"

On 10.12.2024, a session was organized on the title "From Ideas to Impact: Cultivating Critical Thinking for Entrepreneurial Success" by the Entrepreneurship Development Cell and IIC in association with the Department of Electronics and Communication Engineering. The session was handled by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC. A total of 57 students and 2 faculty members participated in the program. This event was coordinated by Mr.Pradeep T Rajan, AP/ECE.

Dr. Prem Ananth commenced the session by emphasizing the importance of critical thinking in the entrepreneurial journey and highlighted how this cognitive skill forms the bedrock of innovation and creativity, enabling individuals to identify opportunities and devise effective solutions to real-world problems. He underscored the transformative potential of critical thinking in reimagining conventional practices and driving impactful changes by Stressing the necessity of approaching challenges from multiple perspectives.

Dr. Prem Ananth discussed a case study of Airbnb and explained how the founders of Airbnb leveraged critical thinking to identify a unique business opportunity within the hospitality industry and further added that by rethinking the concept of accommodation and capitalizing on unused spaces, the founders disrupted the traditional hotel model, creating a platform that has since revolutionized global travel. This example served as a compelling illustration of how unconventional thinking can uncover hidden potential and reshape industries, inspiring students to think innovatively. The speaker highlighted how Mahindra XUV700 and XUV300 vehicles were developed with a focus on delivering maximum value while utilizing limited resources.

FIELD VISIT TO SCAD ANBU ILLAM

The field visit or field trip is an educational procedure by which each student gains information by observing the places, natural events and real – life information.The Department of ECE arranged a field visit to SCAD Anbu Illam, Cheranmadevi, Tirunelveli which is a special school for the MR, Autism, CP and multiple disabilities, on 24th October, 2024, for III ECE, A and B.

The students visited all the places in the school and interacted with the faculty members and children. The objective of the field visit is to reinforce experiential and contextual learning. It helps the students to understand how the physically disabled and mentally retarded live in their communities and how they interact with others. It also helps them to learn how to provide services that will meet the needs of each individual person. The visit inspired our students to contribute to the betterment of our society and this home of love showed that disability is a different ability. The visit was organized under the guidance of Mrs.J.Friska, HOD/ECE, Mr. A. Charles, SCAD Nirman Project Coordinator, SCAD Group, Mrs.Shala F. John, AP/English under the constant encouragement of our Principal Dr. V. Velmurugan. The visit was coordinated by Dr.S.Allwin Devaraj, ASP/ECE, Mrs.J.Vanitha, AP/ECE, and SCAD Nirman project team.

SESSION ON FOSTERING ENTREPRENEURIAL SPIRIT: A PATHWAY TO SUCCESS

On 08.10.2024, a session was organized on the title "Fostering Entrepreneurial Spirit: A Pathway to Success" by the Entrepreneurship Development Cell and IIC in association with the Electronics and Communication Engineering department. The session was handled by Dr. Lourdes Poobala Rayen, IIC President, FXEC. A Total of 58 students and 2 faculty members participated in the program. This event was coordinated by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC. The guest speaker started his session by highlighting why engineers are naturally positioned for success in entrepreneurship. He explained that engineers are trained to tackle problems systematically, a skill that aligns perfectly with the entrepreneurial mindset of identifying challenges and crafting effective solutions and further added that their capacity for innovation, combined with a solid grounding in technology, equips them to excel in launching startups, particularly in industries fueled by rapid technological advancements. The speaker highlighted the constraints of traditional employment, such as Lack of Time Freedom, Limited Income Potential, No Financial Freedom, From Skill to Cash. The speaker stressed that "The goal is not employment, but using creativity and innovation to transform skills into cash-flow-generating ventures." The guest speaker discussed the Entrepreneurial Opportunities in Electronics and Communication Engineering such as PCB Design, Drone Technology, Internet of Things (IoT), and Sensor Technology. The speaker stressed the growing importance of startups as drivers of innovation, economic growth, and job creation and explained that Startups are more agile than established companies and can adapt quickly to changing market demands. Students were encouraged to explore startup opportunities, whether by creating their own ventures or contributing to emerging ones. The session concluded with a strong message about the value of entrepreneurship in achieving both personal and financial freedom.

SESSION ON IGNITING ENTREPRENEURIAL MINDSETS: BUILDING THE FUTURE TODAY

On 07.10.2024, a session was organized on the title "Igniting Entrepreneurial Mindsets: Building the Future Today" by the Entrepreneurship Development Cell and IIC in association with the Department of Electronics and Communication Engineering. The session was handled by Dr. R Prem Ananth, IIC Convener, IIC Innovation Ambassador for "Design thinking & Innovations", AP/ECE, FXEC. A total of 57 students and 2 faculty members participated in the program. This event was coordinated by Mr Pradeep T Rajan, AP/ECE, FXEC.

Goyal's journey underscores how engineers, armed with a strong foundation in technology, are ideal candidates for launching startups in industries driven by rapid technological advancements. The speaker highlighted that engineering equips individuals with the ability to create scalable and impactful solutions, which is a key in today's fast-evolving business landscape. Leveraging technology, as Goyal did by transforming the food delivery system with Zomato, is crucial for entrepreneurial success, especially in a climate where digital transformation is reshaping entire industries. The speaker emphasized three key factors that contribute to entrepreneurial success such as Identifying Market Needs, Product Development and Scalability and Business Acumen. The speaker concluded the session by saying that the Entrepreneurship Development Cell at FXEC is dedicated to fostering an entrepreneurial spirit among students, encouraging them to create innovative business ventures that align with global market standards. The session came to an end with the feedback of the students.

GUEST LECTURE ON ETHICS, A LONG–LOST HUMAN VALUE."

On 23rd October, 2024, a guest lecture was conducted on the topic "Ethics, a long-lost human value" for the students of III ECE for the course Ethics and Human Values. Prof. Shala F. John, Assistant Professor/ English was the resource person. The session started with three questions: what are ethics and human values? Why is it important? and what is the role of engineers in attaining ethics and values in their daily life? The answers to these questions lead to an understanding that one should live a life of mutual happiness and mutual prosperity.

The resource person explained in detail about what is mutual happiness and mutual prosperity and stated that one's happiness and prosperity should make people around them happy and help them live in prosperity. She further added that physical facilities are just objects that give us momentary happiness and listed out 9 values of a healthy relationship where trust is said to be the most important value in a relationship and the true meaning of living rich which is living a life rich of happiness. The guest speaker stated the quotes of Bill Gates, "It is not a mistake to be born poor, but it is a mistake to die poor."

Mrs. Shala F John stressed the importance of good health and further added that there are children and adults who suffer due to poverty and unavailability of good food and nutrition. The number of children with autism are increasing day by day due to lack of proper nutrition and students were advised to have good nutritious food and good sleep as well. The session was very informative and the students learnt the ethics of life and human values by heart. The resource person ended the session with a quote stated by the father of our nation, Mahatma Gandhi, "Be the change you wish to see". The convener of the Guest Lecture was Prof.J.Friska, HOD/ECE and the coordinators of the lecture were Dr.S.Allwin Devaraj, ASP/ECE and Mrs.J.Vanitha, AP/ECE.

IEEE GUEST LECTURE ON EVOLUTION OF TELECOMMUNICATIONS & INNOVATION IN UNDERSEA FIBER OPTIC CABLE SYSTEM

An IEEE professional society of the Department of Electronics and Communication Engineering conducted a guest lecture on Evolution of Telecommunications & Innovation in Undersea Fiber Optic Cable System for II year ECE students and faculty members with on 26.09.2024 (Thursday) between 09.00 a.m. to 11.00 a.m. in the Communication lab, ECE Department, FXEC. Mr. Nellai Kumar, Retired DGM of Tata Communications, Mumbai was the resource person for this event.

The lecture provided an in-depth overview of the historical advancements in telecommunications, from early telegraph systems to modern wireless networks, and highlighted the pivotal role of fiber optic technology in revolutionising global communications. The resource explained undersea fiber optic cables, their technological evolution, challenges in deployment, and their critical role in connecting continents for high-speed internet and global data transfer. He enumerated the innovations in the field, including smart cables and network management. The lecture made the students explore future trends and career prospects in telecommunications and fiber optics. A total of 115 students of II ECE and faculty members of the ECE department benefited from this program. The event was coordinated by Mrs. E. Francy Irudaya Rani, AP/ECE, under the guidance of Dr.L.R.Priya, Professor/ECE and Prof. J. Friska, HOD/ECE.

IDEA CONTEST 2024

On November 8, 2024 Entrepreneurship Development Cell and IIC in association with the Department of Electronics and Communication Engineering organized an "IDEA CONTEST 2024". The Idea Contest was organized exclusively for school students studying from 6th to 12th standard in different categories. A total of 42 schools from in and around Tirunelveli, Thoothukudi, and Tenkasi participated in the event, representing a wide array of talent and creativity.

A total of 211 teams consisting of 743 students from private (551 students) and government (192 Students) schools participated in the Project Expo, showcasing their innovative ideas. This event was a platform to nurture the talents of young minds and provide them with an opportunity to showcase their innovative Ideas. Each project was evaluated by a panel of expert judges, and participants were given an opportunity to explain their projects in detail. The projects ranged from sustainable energy solutions to innovative tech models. The students were allotted adequate space and necessary tools for setting up their presentation from 9.30 AM to 4.00 PM.

The participants displayed their innovative design, product and the models like Robotic Systems in Precision Farming, Arduino-Based Vegetables & Fruits Ripeness Detector, Air cooler and laser security, Sensor Helicopter, Flood indicator, Crop recommendation using AI, AI post office in 2050, Forest rescuer bot, Rain detector module, Line follower robot, Obstacle avoiding robot, Smart farming and Road accident prevention methods. The innovative projects were evaluated by a team of experts by visiting their stalls and interviewing the product innovators.

During this evaluation, the experts raised questions related to their project and gave suggestions to enrich the innovative ideas. The project exhibition came to an end with the valedictory function where the prizes were given to the winners and certificates were issued to the participants by Dr. G. Simiyan, Assistant Director, MSME Tirunelveli and Madurai Branch. The competition created a motivation and gave an insight to the students who visited the innovative models and ideas.