JANUARY 2025, NO VOL.15

KOLHAPUR INSTITUTE OF TECHNOLOGY'S COLLEGE OF ENGINEERING KOLHAPUR (EMPOWERED AUTONOMOUS)

Department Newsletter

Department of Electronics & Telecommunication Engineering

Vision

To be the center of excellence in education in electronics and telecommunication engineering and the preferred choice of students,faculty,industry and society at the global level

OUR MISSION

Highlights

- Department's Activities
- Staff Achievements
- Students' Achievements

Programme Objectives (POs)for Department of E & TC Engg

- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

- Understanding and applying the mathematical and scientific concepts, for analysis and design of basic Electronics and Communication systems.
- Develop critical thinking to identify societal needs competence to modern engineering tools for professional growth with communication skill and leadership attributes.

From HOD's Desk

The Department has been running a U.G. course in Electronics & Telecommunication Engineering since 2007. It has to its credit an excellent track record in terms of students' academic performance over the years.
We believe that there's nothing like 'education that finds a direct application in the industry',and we aim to provide just that by incorporating industry oriented syllabus s well as organizing industrial visits, study tours and specific workshops and also providing internship in various national and multinational companies as well as in national and international institutes. Being strategically located in a region that's blossoming industrially, outstanding projects worked on by students receive financial support of the industry.
Campus interviews help students get acquainted with the requirements of the industry and also help them find placements in well-known industries like intel, Microchip, Knoor Bremse,ITC,KPIT Technologies Pune, Capgimini,Wipro,eInfochip Pune, Global edge Banglore SIEMENS etc.
Dear friends and well-wishers of KIT's college of Engineering, Kolhapur,I am happy to present the January-2024 Issue of Department of Electronics & Telecommunication Engineering the newsletter to you. The current issue will give you a glimpse of the Activities conducted ,Academic Achievements, Research & Innovations, Collaborations and placements. Your comments and suggestions are welcome to make the next issue of the newsletter more interactive.

Dr. Y. M. Patil

3 days workshop on Circuit Simulation and PCB Design".

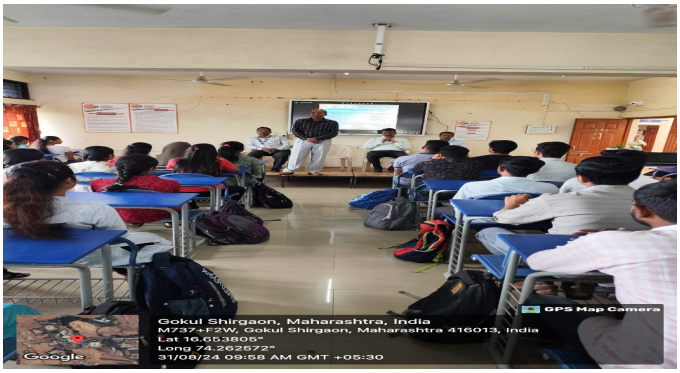
by DR.A.L.RENKE & MR.A.S MOHITE

"Circuit simulation and PCB design" a three day workshop was arranged for second year division A and B students of E & TC department in association with Mayura AICTE idea lab, IETE and Electronics and Telecommunication department on August 31, 1 and 2 September 2024.In this workshop students are benefited with Introduction to ORCAD, Types of Simulation Creating a Schematic Design, Simulating a Design in ORCAD and in PCB designing.

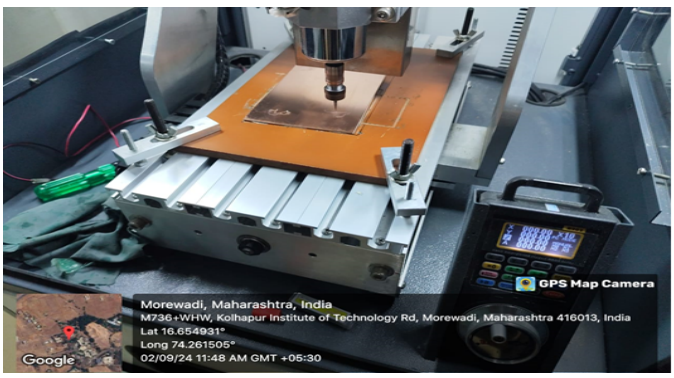
The pionts covered in the workshop are as follows

- Bias Point Analysis
- DC Sweep and AC Sweep
- Time Domain (transient)
- Introduction to Eagle CAD ,Circuit Design in Eagle CAD, PCB Design in Eagle CAD
- Generation of G-codes
- Fabrication of PCB on PCB milling Machine

The students are benefited with TinkerCAD, Arduino programming, Introduction to Eagle CAD, Circuit Design in Eagle CAD, PCB Design in Eagle CAD, generation of Gerber files in copperCAM software, Generation of G-codes and fabrication of PCB on PCB milling Machine.Tools and software used for workshop: ORCAD 9.2 and Pspice, TinkerCAD, Arduino programming, EagleCAD 7.5.0, CopperCAM, Mach3, PCB miling machine, soldering and desoldering station



By the end of this workshop, the participants will be able to Create schematics of circuits and simulate them as well as Design a manufacturable PCB from scratch, and perform Electrical and Design Rule Checks



Orientation Program for Second Year Students.

The second-year student orientation program on 8 August 2024 was organized in the department. The main objective of the program was to integrate students into their academic and social environment, covering essential aspects of university life, policies, and support services.

The students were addressed by the Head of the department Dr. Y. M. Patil Sir who welcomed the students and gave them an introduction regarding the academic disciplines.The students were also guided by Academic coordinator Dr. M. D. Sontakke Sir.

The main objective of the orientation program were as follows:

- To bridge the gap between students & faculties.
- To aware the students about the department culture and inform the students about the code of conduct.
- To create awareness among about the various co-curricular and extra activities helps the student for their overall development.
- To create awareness among students about the professional etiquette.

"Guest lecture on Higher education "

by Dr. M.D. Sontakke

In continuation with students' skill improvement the Electronics & Telecommunication Engineering department arranges the Guest Lecture on Guest lecture on Higher education by Mrs, Pallavi Desai on 8 October 2024. The Guest Lecture was organized by the Department of E & TC Engg on 8 October 2024 for SY and TY students.

The objective of the lecture was to enrich the students to pursue for higher education and also to highlights the importance of higher education in India.

The session started with welcome speech by Dr. M. D. Sontakke Sir.She highlighted that, India as a developing nation is continuously progressing in the education field.

Although there have been lot of challenges to higher education system of India, the same way it has equal opportunities to overcome these challenges and to make higher education system much better.

It needs greater transparency and accountability, the role of colleges and universities in the new millennium, and emerging scientific research on how people learn is of utmost important. India need well skilled and highly educated people who can drive our economy forward. India provides highly skilled people to other countries therefore; it is very easy for India to transfer our country from a developing nation to a developed nation developing nation to a developed nation.

" Teachers Day Celebration"

In India, 5th September is celebrated as Teachers' Day as a mark of tribute to the contribution made by teachers to the society. 5th September is the birthday of a great teacher Dr. Sarvapalli Radhakrishnan, a staunch believer of education and a well known diplomat, visionary, statesman, scholar, President of India and above all a perfect Teacher.

The teacher's day was celebrated by the students of E & TC Engg. department on 5th September to express their gratitude for the immense ontribution put forth by their teachers towards their development. Teachers are the cornerstone of students' future.

Workshop on "Advanced Microcontroller Using Texas Instrument Kits"

by MR.V. V. KHANDAREL

Modern day Embedded Systems curriculum requires an application and Systems Design approach balancing the low power needs, performance, connectivity requirements and system cost. This texas Instruments kits is designed to inculcate this perspective in the students while introducing them to Microcontrollers using MSP430, an industry standard hardware platform. The kits helps us

to understand 16-bit architecture and its programming considerations using C language.

Later part is focused on programming various inbuilt features of the platform with more focused approach on analog and digital interfacing concepts and related protocols. The considerations in keeping the System power consumption low are addressed along the way. Embedded systems whether they are standalone or networked need various communication interfaces and standards so that they communicate and process data from external sensors and actuators. It will cover how to connect the device to external peripherals including those needed for internet connectivity.

As the need of industry base knowledge is the prime requirement for now a day Engineering students. Keeping this view in mind Kolhapur Institute of Technology College of Engineering, Kolhapur Is striving hard to give lot of project based and industry based training to students by arranging different workshops and training for students.

Under the banner of IETE, students of S.Y E& TC got benefited by acquiring skills and hands on training given by industry expert Mr. Niraj Kapase, Senior Technical Lead, Brose Automative India Ltd.,Pune Resource person gave detail introduction about usability of texas instruments kits in industries. He gave the detail architecture and specifications of MSP430 launch pad. The actual coding and simulation by Energia and code composer was demonstrated by him. Installation of software and hardware implementation was demonstrated by him in detail. He encourage the students to develop mini projects using texas Instruments kits and also insist to show case their talent by participating in different competition. Session was concluded by taking quiz for students which was more interesting and enjoyable. Students enjoyed the learning from industry expert and got confidence to handle the texas instrument kit successfully. Session ended with vote of thanks to coordinator and resource person by Mr.Khandare V.V.

One Week Workshop on "Edge AI on Cortex Mx

by PROF. A. R. NIGAVEKAR

A one-week workshop on Edge AI, focusing on the Cortex-M series of microcontrollers was organized from 23 July to 27 July 2024 for selected Third Year stuents. The workshop would cover the fundamentals of edge AI, including the use of machine learning algorithms on low-power devices. Participants would learn how to select the appropriate edge AI model for their application, train it,

and deploy it on a Cortex-M MCU. The workshop could also include hands-on labs using tools like NanoEdge AI Studio, which helps simplify the process of adding AI to embedded projects.

The objectives of the workshop were

- Understanding Edge AI
- Cortex-M Microcontrollers
- Edge AI Models
- Model Selection and Training
- Deployment on Cortex-M MCUs
- Hands-on Labs

The expected outcomes of the workshop were Participants would have a strong understanding of edge AI concepts and technologies.They would be able to select the appropriate edge AI model for their application.Also They would be able to train and deploy AI models on Cortex-M MCUs.And They would be able to apply their knowledge to develop real-world edge AI solutions.

Guest lecture on “Start ups and Entrepreneurship”.

by MS. S.R.LAD

Guest lecture on “Start ups and Entrepreneurship” was conducted by Dr.Prasanna Karmarkar, DOT Shivaji University on 24 February 2024 for SY and TY BTECH students.

One Day Workshop on MATLAB Simulink and hardware Interfacing

by MRS. M. V. GANGAPURE

Department of E & TC Engg. organized a one day workshop on MATLAB Simulink and Hardware Interfacing for Third year students. Mr. Kunal Khandelwal (Application Engineer MATLAB) was the Resourse person for the workshop.All third year students were attended the event.

This workshop on MATLAB Simulink and hardware interfacing provides participants with practical experience in using MATLAB Simulink for modeling, simulation, and interfacing with hardware components.

The workshop aims to equip individuals with the skills to create, simulate, and analyze dynamic systems, and to connect those models to real-world hardware. The primary objective of these workshops is to equip participants with the necessary skills and knowledge to leverage MATLAB Simulink for various applications specific to their fields. This initiative aims to bridge the gap between theoretical knowledge and practical implementation, fostering a deeper understanding of the tool’s capabilities and its application in real-world scenarios.

The main objective of the workshop were

- Introduction to MATLAB Simulink environment.
- Basics of modeling and simulation in Simulink.
- Hardware interfacing techniques using MATLAB.
- Examples of practical applications and case studies.

The practical exercises conducted during the workshop, such as:

- Creating simple Simulink models for different systems.
- Simulating the models and analyzing the results.
- Interfacing Simulink models with hardware components like Arduino or Raspberry Pi.

These workshops present a unique opportunity for students to enhance their technical skills, interact with industry experts, and gain hands-on experience with a powerful tool used extensively in academia and industry. Whether you are looking to improve your knowledge in hardware interfacing, this workshop series promises to deliver valuable insights and practical skills.

Guest Lecture on- “Guidelines while appearing for GATE-2025 examination”

by Mrs. Minaj Shiklagar and Dr. P.B.Nikam

The Department of E&TC Engg. organized an insightful guest lecture on the GATE (Graduate Aptitude Test in Engineering - 2025) examination to help students understand the importance of this exam in shaping their career paths. The lecture was aimed at providing information on effective preparation strategies, insights into the exam pattern, and its significance for pursuing higher education and job opportunities in the public sector.

The Key Highlights of the lecture were

- Introduction to GATE Examination: The speaker gave a detailed overview of the GATE exam, including its structure, marking scheme, and eligibility criteria. He explained how this exam serves as a gateway for higher studies and government-sector jobs.
- Preparation Strategies: The speaker shared tips on how to plan an effective study schedule, the importance of time management, and the necessity of understanding the weightage of different topics. The emphasis was on consistent practice, understanding concepts, and managing exam pressure.
- Resources and Materials: This guest lecturer recommended various study resources such as standard

textbooks, online courses, and mock tests. He encouraged students to follow a structured approach by leveraging quality resources to improve their preparation.

- Career Opportunities After GATE: The speaker explained various career options available to students post-GATE, including M. Tech and Ph.D. admissions in premier institutions like IITs and NITs. He also discussed job opportunities in government organizations and PSUs, highlighting the benefits of working in these sectors.
- Q&A Session: The session ended with a Q&A segment where students asked questions related to specific subjects, exam anxiety, and balancing college studies with GATE preparation. The speaker provided practical tips and solutions for each question, enhancing the session's value.

the Feedback from Students was taken and the lecture was highly appreciated by the students, who found it to be informative and motivating. They gained a clearer understanding of the GATE examination and felt more confident about their preparation strategy.

NewsItem**Two Day Workshop on Antenna Design using HSFF** by DR. A. L RENKE

A two-day workshop on antenna design using HSFF (High-Frequency Structure Simulator) software was organized by E & TC Engg Department for all third year students on 19 and 20 October 2024. It was a valuable opportunity for students and professionals to gain hands-on experience in simulating and designing antennas. This workshop typically cover key concepts in electromagnetics, various simulation techniques, and the practical application of HSFF in real-world antenna designs.

The objective of the workshop was to bridge the gap between theoretical understanding and practical implementation, enabling participants to visualize electromagnetic wave theory concepts and translate them into antenna and microwave designs.

The following ponits were covered in this workshop.Antenna design using HSFF software, including simulation and analysis.

- Electromagnetics fundamentals.
- Different simulation methods (FEM, MOM, FDTD, PO).
- Design of various antennas (microstrip patch antennas, filters, helical antennas, etc.).
- Simulation process using HSFF.
- Hands-on experience with HSFF and potentially other relevant software.

The students got the knowledge of enhanced understanding of antenna design principles. As well as Practical experience with HSFF and simulation tools.Also Networking opportunities with peers and industry experts. And Problem-solving skills development.

The students appreciated the workshop contents and gave positive feedback and expected organization of more such workshops in future.

CLPBL Day Celebration

by MRS. M. V. GANGAPURE

This problem-based learning style presents students with a real-world issue and asks them to come up with a well-constructed answer. They can tap into online resources, use their previously-taught knowledge, and ask critical questions to brainstorm and present a solid solution.

Unlike traditional learning, there might not be just one right answer, but the process encourages young minds to stay active and think for themselves. We're all about the problem-based learning approach at K I T's college of Engineering (Autonomous), Kolhapur.

Problem-based learning (PBL) is a teaching style that pushes students to become the drivers of their learning education. Problem-based learning uses complex, real-world issues as the classroom's subject matter, encouraging students to develop problem-solving skills and learn concepts instead of just absorbing facts.

This can take shape in a variety of different ways. For example, a problem-based learning project could involve students pitching ideas and creating their own business plans to solve a societal need. Students could work independently or in a group to conceptualize, design, and launch their innovative product in front of classmates and community leaders. At the Hun School of Princeton, a problem-based learning mode is offered in conjunction with course content.

This approach has been shown to help students develop critical thinking and communication skills as well as problem-solving abilities. Separate topics based on concept of Model Based Design and Digital System Design based projects were assigned to all students in groups (maximum 4-6 students per group) of the same year to enable healthy competition among the different teams.

The students work in groups and assign and distribute various aspects of work so as to realize the project based on a timeline of about 2 to 3 months. Queries and doubts are clarified by interactions with the PBL coordinators and subject experts. Student groups submit the PBL report during their demonstrations on a specified date in front of the faculty members.All ETC Engineering Faculty of the concerned class were judges for PBL demonstration.

Three projects from each class were selected for final presentation day.on 4th May 2024 CLPBL day was celebrated in which Mr. Dhaiyashil Patil Vidhyathi Solution Pvt.Ltd. All ETC Engineering Faculty of the concerned class was judges for PBL demonstration. Prof. Akshay Thorwat Dean Academics,Dr. S.J Sathe Dean Research and Coordinator IDEA LAb, Dr. Mohan Vanrotti Direcor KIT were present. appreciated by all the dignitaries present. The participation certificate were issued to all the project group members.

Students' Achievement

Mr Harshvardhan Dilip Patil had qualified GATE EXAM 2024 (Computer Science and Information Technology (S)) with score 65.19 (AIR-468).He had taken admission in M. Tech in Computer Science at IIT Guwahati

Ms Aishwarya patil qualified

- GATE EXAM 2024 (Instrumentation engineering (IN)) with score 48.67 (AIR-360).
- GATE EXAM 2024 (Electronics & Telecommunication Engineering (ETC)) with score 39 (AIR-1254). She had taken admission for M. Tech in Semiconductor Technology & Chip Design at IIT Bhubaneshwar

Miss Prerna Rawale The students from Final Year Miss. Prerna Rawale secure first Prize in National Level Hakathon held at VTU Belgavi

Mr.Avait Kulkarni and Mr. Suchit Potdar secured prizes in various National level Technical events like circuit design and paper presentation.

In Pics

Teacher parents Meet-2024

OUR ESTEEM RECRUITER

For any suggestions, please contact us at: gangapure.madhura@kitcoek.in

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