

ELECTRA

DEPARTMENT OF ELECTRONIC AND COMMUNICATION

KMCT COLLEGE OF ENGINEERING



THINK DIGITAL. BUILD INTELLIGENT. SHAPE TOMORROW.

About the College

KMCT College of Engineering, established in 2001 by the Kunhitharuvai Memorial Charitable Trust in Kozhikode, Kerala, is affiliated with AICTE and currently with APJ Abdul Kalam Technological University since 2015. The institution offers eight B.Tech programs and three postgraduate courses - MBA, MCA, and M.Tech. With a professional and supportive environment, the college fosters academic excellence through experienced faculty and a career-focused approach. Under the leadership of Dr. K. Moidu, the KMCT group manages several esteemed institutions across medical, technical, and allied health sciences.

About the Department

The department of Electronics and Communication Engineering was started in the year 2001 with a sanctioned intake of 60 and later on in 2004 it was increased to 120. In 2010, the department started M.Tech program in Digital Signal Processing with an intake of 18. The B.Tech and M.Tech program offered by the department follows the curriculum and syllabi as well as rules and regulations of APJ ABDUL KALAM Technological University

Academic Programs

B. Tech in Electronics and Communication Engineering: This four-year undergraduate program follows the curriculum prescribed by APJ Abdul Kalam Technological University (KTU). It encompasses subjects such as digital electronics, analog circuits, microprocessors, signal processing, telecommunications, and embedded systems. The curriculum is regularly updated to incorporate the latest technological advancements, ensuring students are well-prepared for industry demands.

M. Tech in Digital Signal Processing: A two-year postgraduate program focusing on advanced topics in signal processing, preparing students for specialized roles in research and industry

OUR VISION

To produce globally competitive Electronics & Communication professionals with research focus and entrepreneur skills for sustainable technological growth.

OUR MISSION

To foster a student-focused learning experience using modern lab tools and innovative teaching methods to develop industry-ready professionals.

To impart leadership qualities with ethical values among students to foster societal and environmental challenges.

To equip students with modern learning, real-world industry exposure, and strong career opportunities through placements and partnerships.

PROGRAM SPECIFIC OUTCOMES

After successful completion of the program, students will be able to:

PSO1: Apply the concepts of RF & Communication, Signal Processing, Networking, VLSI & Embedded Systems in the design and implementation of engineering systems.

PSO2: Design and implement Electronics and Communication systems using analytical knowledge by applying modern hardware and software tools.

PSO3: Develop the ability to make use of acquired technical knowledge to get employed in the field of Electronics and Communication and also become a successful entrepreneur.

PSO4: Develop skills to solve problems, assess social and environmental issues with ethics, and manage different projects in multidisciplinary areas.

PROGRAM EDUCATIONAL OBJECTIVES

Graduates of the program will:

PEO1: Obtain in-depth knowledge in the core discipline of Electronics and Communication Engineering to analyze, design and create innovative products and solutions to real-life problems to cater to social needs.

PEO2: Inculcate the habit of teamwork, entrepreneurial skills and a multidisciplinary approach to meet the needs of the industry.

PEO3: Achieve progress in professional and research careers by pursuing higher studies in their interested domains.

PEO4: Effectively use modern equipment and programming tools to solve real-world problems that are technically sound, economically feasible and socially acceptable.

Faculty and Expertise

The department boasts a team of experienced faculty members with specializations in areas such as communication engineering, VLSI, embedded systems, and digital signal processing. Notable faculty include Dr. Janardhanan P., a professor with 48 years of teaching experience, including 33 years at NIT, specializing in communication engineering

Laboratories and Facilities

To support hands-on learning, the department is equipped with state-of-the-art laboratories, including:

- Circuit Lab
- Process Control Lab
- Microprocessor and Controller Lab
- Digital Electronics Lab

These labs provide students with practical experience in designing and analyzing electronic systems, fostering a deeper understanding of theoretical concepts

Student Activities and Associations

Electra the department association which aims to enhance the technical knowledge of students by organizing various technical activities and competitions to bring out their passion and creativity.

Career Prospects

Graduates from the ECE department have excellent career opportunities in sectors such as telecommunications, electronics design, hardware development, and research. The college's placement cell actively supports students in securing positions in leading companies, and the strong alumni network further aids in career advancement.

The Department of Electronics and Communication Engineering (ECE) continues to strive toward excellence in teaching, research, and innovation. During the academic year 2024–2025, the department focused on curriculum enhancement, faculty development, student skill-building, and industry collaboration to align with emerging technologies and industry expectations.

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Message...

Dr Kavitha S Murugesan
Principal, KMCT College of Engineering



I am immensely pleased to witness the release of the latest edition of the News letter of Electra of Electronics and Communication Engineering department News letter. A department News letter is not just a collection of articles; it is a vibrant reflection of the intellectual bandwidth, creativity, and technological prowess of our students and faculty.

The field of Electronics and Communication Engineering is evolving at an unprecedented pace. From the rollout of advanced communication networks and IoT integration to the breakthroughs in VLSI design and artificial intelligence, ECE stands at the very core of modern global innovation. As future engineers, you are not just learning about technology; you are preparing to build the infrastructure of tomorrow.

I commend the editorial team, faculty members, and students for their dedicated efforts in bringing this publication to light.

To the students, I encourage you to keep pushing the boundaries of your knowledge. Continually seek out practical challenges, innovate relentlessly, and remember that engineering is ultimately about solving real-world problems to improve human lives.

I wish the Department of ECE continued success in all its academic, research, and co-curricular endeavors.

Happy reading!

Message...

Dr. SUNU SURENDRAN K T
Vice Principal, KMCT COE



Dear Student Friends and Colleagues,

It gives me immense pleasure to extend my warm wishes on the inauguration of ELECTRA'26, the association of the Department of Electronics and Communication Engineering.

ELECTRA provides students with a wonderful platform to nurture their talents, enhance their skills, and actively participate in academic, technical, cultural, and co-curricular activities. I encourage every student to make the best use of this platform to foster learning, innovation, teamwork, leadership, and personal growth.

I congratulate the student office bearers, faculty coordinators, and everyone involved in organizing the activities of ELECTRA'26 during this academic year. I am confident that the team will embark on a successful and enriching journey, organizing many meaningful, innovative, and memorable programmes in the years ahead.

Best Wishes!

Message...

Dr. NEETHU RAVINDRAN

Head of the Department, KMCT COE



Words alone cannot truly capture the enthusiasm, creativity, and dedication that define the Department of Electronics and Communication Engineering. Electra '26, the Department Association programme, is a celebration of the vibrant spirit of our students and their passion for learning, innovation, and excellence. The department has always endeavoured to provide students with opportunities beyond the classroom through technical workshops, industrial visits, competitions, hands-on activities, and programmes in emerging areas such as VLSI, MATLAB, and other industry-relevant technologies. These initiatives encourage students to explore new ideas, strengthen their technical and professional skills, and develop the confidence to face the challenges of the evolving engineering world. We also look forward to conducting many more enriching programmes and creating opportunities for meaningful interaction and collaboration with students from other institutions. I sincerely appreciate the dedicated efforts of the faculty coordinators and student members who have worked together to make Electra '26 a memorable and meaningful event, and I wish the programme every success in inspiring our students to learn, innovate, lead, and excel.

Best wishes .

Message...

Mr. SUMOD T
Academic Dean, KMCT COE



I am delighted to extend my warm greetings on the release of the latest edition of ELECTRA, the newsletter of the Department of Electronics and Communication Engineering, KMCT College of Engineering.

A departmental newsletter is a meaningful platform that brings together the academic achievements, technical activities, innovative ideas, and accomplishments of students and faculty. It reflects the vibrant learning environment and the continuous efforts of the department towards academic excellence and professional development.

Electronics and Communication Engineering is a dynamic field that continues to evolve with remarkable advancements in artificial intelligence, embedded systems, IoT, VLSI, communication technologies, signal processing, and automation. In this rapidly changing technological landscape, it is essential for students to develop not only strong theoretical foundations but also practical skills, creativity, problem-solving abilities, and a spirit of innovation.

I appreciate the sincere efforts of the Head of the Department, faculty members, editorial team, and students in bringing out this edition of ELECTRA. The various academic programmes, technical sessions, industrial visits, and student activities featured in this newsletter demonstrate the department's commitment to providing meaningful learning experiences beyond the classroom.

I encourage our students to make the most of every opportunity to learn, experiment, collaborate, and innovate. Let your curiosity lead you towards new ideas and your knowledge inspire solutions that create a positive impact on society.

I wish the Department of Electronics and Communication Engineering and the ELECTRA team continued success in all their academic, technical, research, and co-curricular endeavours.

Happy Reading and Best Wishes!

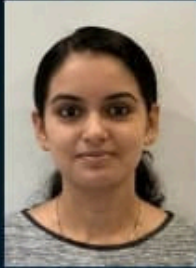
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DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING



ELECTRA 2025 CORE COMMITTEE



Vrindha U.K
Staff coordinator



Kesavan Namboothiri T
Staff co-coordinator



Rashin T P
Chair person



Anusri C
Vice chairperson



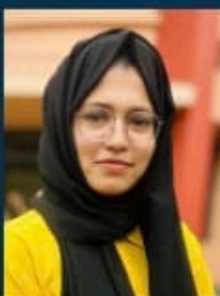
Shafi
Secretary



Abinand PV
Treasurer



Fayis
Finance Assistant



Rifa Nahrin A P
Content Lead



Gayathri Krishna K
Documentation



Fathima NK
Record Keeper



Muhammed Naeemuddeen
Web Master



Muhammed Mehafil
Media Wing



ELECTRA 2025 Inaugural Programme

Department of Electronics and Communication Engineering
KMCT College of Engineering

The Department of Electronics and Communication Engineering, KMCT College of Engineering, proudly organized the inaugural programme of ELECTRA 2025, the departmental association dedicated to fostering technical knowledge, innovation, creativity, and professional development among ECE students.

The inaugural programme was conducted on 11 August 2025 at 9:00 AM at the APJ Abdul Kalam Hall. Students from the second, third, and final years of the ECE department actively participated in the programme, making it an engaging and enriching beginning to the activities of ELECTRA 2025.

The programme featured two insightful technical sessions by industry professionals. Mr. Arunlal C K, Project Manager, WATZS Semiconductors Pvt. Ltd., delivered a session on "Introduction to Optical Fibre Communication," providing students with valuable insights into the fundamentals and applications of optical fibre technology. The second session was handled by Mr. Anshad K, Mechatronics Engineer, AISOTOP, on "Advanced Arduino: Innovation through Embedded System." The session introduced students to advanced concepts in Arduino and embedded systems and encouraged them to explore innovative applications in the field of electronics.

The programme provided students with an opportunity to interact with industry experts and gain knowledge beyond the academic curriculum. The sessions also highlighted the importance of practical skills, emerging technologies, and innovation in shaping successful careers in Electronics and Communication Engineering.

The event was conducted under the guidance and leadership of the Head of the Department, Ms. Najla, along with the faculty members of the ECE Department. The active participation of students contributed significantly to the success of the inaugural programme.

With its promising beginning, ELECTRA 2025 aims to continue providing students with a platform to learn, innovate, collaborate, and develop into competent engineering professionals.

ELECTRA 2025 – Connecting Ideas, Inspiring Innovation, Empowering ECE!

ELECTRA 2026 – Technical Talk

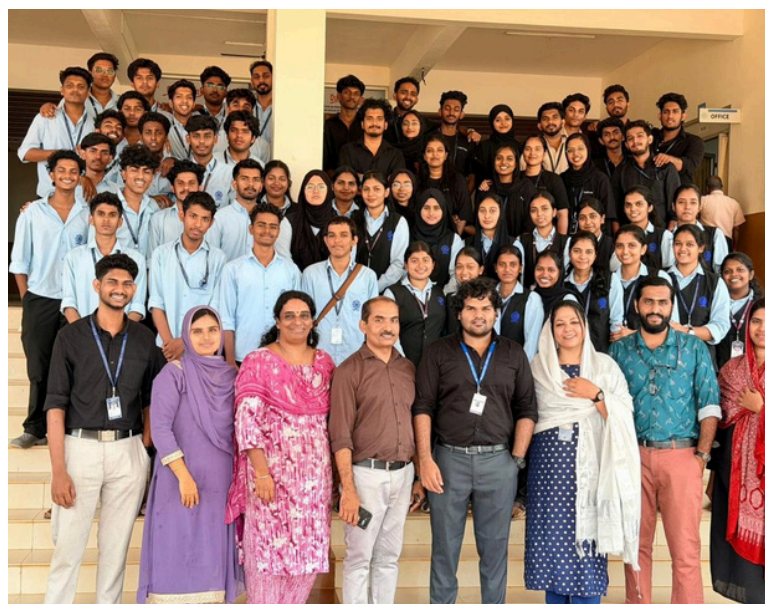
Department of Electronics & Communication Engineering
KMCT College of Engineering

The Department of Electronics & Communication Engineering, KMCT College of Engineering, organized an insightful technical programme under ELECTRA, the departmental association, on 20 February 2026 at 9:00 AM in the Internet Lab.

The programme, titled "Bridge the Gap: Real-World Interfacing with MATLAB & Simulink," was aimed at providing students with practical exposure to the application of MATLAB and Simulink in real-world engineering problems. The session was attended by students from the second, third, and final years of the ECE department, who actively participated and benefited from the programme.

The keynote session was delivered by Dr. Arun T Nair, NIELIT Calicut, who shared his expertise on MATLAB and Simulink and their applications in engineering and technological development. The session focused on connecting theoretical concepts with practical implementation and helped students understand how simulation and modelling tools can be effectively used to solve real-world problems. The interactive nature of the session encouraged students to explore MATLAB and Simulink beyond the academic curriculum. It provided valuable insights into simulation-based design, system modelling, real-world interfacing, and the relevance of these tools in higher studies and professional engineering environments. The programme was conducted under the guidance of Ms. Najla PR, Head of the Department, ECE, and coordinated by Ms. Rabimol V P, Assistant Professor, ECE. The enthusiastic participation of the second-, third-, and final-year students contributed significantly to the success of the programme.

The session served as a valuable platform for students to enhance their technical skills and gain industry-relevant knowledge, reinforcing ELECTRA's commitment to bridging academic learning with real-world engineering applications. ELECTRA – Empowering ECE Students through Knowledge, Innovation and Technology



Industrial Visit to MediaOne, Kozhikode



The Department of Electronics & Communication Engineering, KMCT College of Engineering, organized an industrial visit to MediaOne, Kozhikode, on 21 February 2026 for third-year ECE students. A total of 26 students participated in the visit with great enthusiasm.

The visit aimed to provide students with practical exposure to the functioning of a professional media and broadcasting organization. Students gained valuable insights into television broadcasting, studio operations, audio and video systems, transmission technologies, signal processing, and communication infrastructure.

The students also interacted with technical professionals and understood how concepts learned in their academic curriculum are applied in real-world broadcasting environments. The visit helped them appreciate the importance of technical skills, teamwork, communication, and emerging technologies in the media industry.

The visit was coordinated by Ms. Rishna V and Mr. Kesavan Namboothiri T, Assistant Professors, ECE Department. Their guidance contributed to the smooth conduct of the programme.

The industrial visit was an informative and enriching experience that helped students bridge the gap between classroom learning and industrial practices while providing valuable exposure to career opportunities in the communication and broadcasting sector.

Industrial Visit to BSNL Manjeri

The Department of Electronics and Communication Engineering, KMCT College of Engineering, Kozhikode, organised an industrial visit to BSNL Manjeri on 21 January 2026 for 40 first-year students of the 2025-29 batch, accompanied by three faculty members. The visit was coordinated by Najla PR, Head of Department, Rabimol VP, Assistant Professor, and Uday Kumar E, Lab Instructor.

An introductory session led by Mr. Shafeek Ali, Sub Divisional Engineer, explained communication fundamentals and their application in telecommunication networks. Guided by BSNL technical staff, students visited the Transmission Room, National Internet Backbone (NIB) Room and OCB Telephone Exchange. They observed networking equipment, optical fibre cables, switching systems and power backup facilities, gaining practical insight into telecommunications infrastructure.

The programme also included visits to the Teak Museum and KFRI Bioresources Nature Park in Nilambur. The visit connected classroom learning with industrial practice and provided opportunities for interaction with industry professionals, alongside exposure to biodiversity and environmental conservation.



KARMA 26



3D Printing and Designing Workshop Explores Emerging Technologies

As part of Karma 2026, a 3D Printing and Designing Workshop was conducted at KMCT College of Engineering on 25 March 2026. The programme was organized by the IEEE Student Branch in collaboration with Electra and Aisotop to introduce students to the rapidly evolving field of additive manufacturing.

The session provided an overview of 3D printing technologies and demonstrated the process of creating three-dimensional objects from digital models using design software and modern printing techniques. Participants were introduced to popular design tools, printing methods such as FDM, SLA, and SLS, and the diverse applications of 3D printing across industries including healthcare, aerospace, automotive, architecture, and product development.

The workshop highlighted the advantages of 3D printing, including rapid prototyping, customization, cost efficiency, and design flexibility, while also discussing its challenges and limitations. The future potential of the technology in fields such as medicine, construction, food production, and space exploration was also explored.

Overall, the programme proved to be highly informative and beneficial, providing students with valuable insights into one of the most innovative technologies shaping the future of engineering and manufacturing.

IoT with ESP32 Workshop Introduces Students to Smart Technologies

As part of Karma 2026, an IoT with ESP32 Workshop was conducted at KMCT College of Engineering on 25 March 2026. The programme was organized by the IEEE Student Branch in collaboration with Electra and Aisotop, aiming to provide students with practical exposure to the Internet of Things (IoT) and embedded systems.

The session introduced participants to the fundamentals of IoT and the features of the ESP32 microcontroller, including its Wi-Fi and Bluetooth capabilities. Students gained insights into the development of smart and connected devices and explored real-world applications of IoT technologies.

A hands-on training session enabled participants to work directly with ESP32 boards and develop basic IoT projects under expert guidance. The interactive nature of the workshop fostered active learning, collaboration, and technical skill development among the attendees.

The programme concluded successfully with positive feedback from participants, who gained valuable knowledge in IoT concepts, ESP32 programming, and automation technologies. Overall, the workshop proved to be an informative and engaging learning experience, inspiring students to explore innovative solutions in the field of smart technology.

