

PULSE



SAKTHI POLYTECHNIC COLLEGE
 (AICTE Approved || Government Aided Institution)
 (NBA Accredited – Civil, Mech., ECE, EEE and Metallurgy)
SAKTHI NAGAR – 638 315



EDITORIAL BOARD

Chief Editor Mr.K. SARAVANAN Head of the Department	Staff Editor Mrs. R.Chitra W/S Instructor	Student Editors Mr. M.Barathpriyan Mr. K. Ayyannan
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Volume - 3
Issue-1

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
 ENGINEERING**



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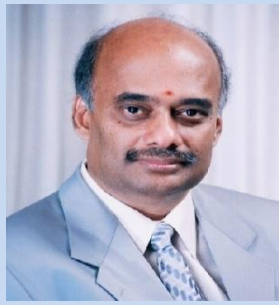
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

NEWS LETTER 2025-2026 – ODD SEM



Padma Bhushan
Arutselvar Dr. N. MAHALINGAM, B.Sc., F.I.E.
Founder – Sakthi Polytechnic College.

Arutselvar DR. N. MAHALINGAM a legendary Gandhian by principle, a patriotic and proud son of the soil, Dr. N. MAHALINGAM was a man of pious living. His exemplary social contributions in numerous fields of socio-economic spectrum have benefited scores of institutions and individuals inspired by him during his long career. The government of India duly recognized his meritorious deeds and honored him with the prestigious Civilian Award - PADMA BHUSHAN. Dr. N. Mahalingam is also a recipient of many awards and titles conferred upon him by various educational, social and cultural institutions. As an industrialist he has several important positions and has played major roles fostering the development of agricultural, industrial, human resource and institutional development at the State and National levels. He is the Pioneer of sugar industry. He has rendered notable literary contributions. His social and humanitarian considerations took his journey beyond the boundaries of industries and scholarly tents he nurtured.



CHAIRMAN

Dr. M. MANICKAM, M.sc., M.B.A.

Dr. M. Manickam, the eldest son of Arutchelvar Dr N Mahalingam, is an industrialist, educationalist and an outstanding administrator with an M.B.A from the University of Michigan, U.S.A. He is the chairman of NIA educational institutions and Vice- Chairman of Sakthi Sugars. Under his capable guidance and stewardship, Sakthi Sugar Mills has expanded and set-up institutions in many places. Through his constant efforts, Sakthi Auto Components Ltd has modernized and expanded. He had been the President of the "All India Sugar Manufacturers Association" and currently he is the President of Indian Sugar Technologists Association. He was awarded an Honorary Doctorate Degree by Tamil Nadu Agricultural University. He evinces keen interest in the development of Good Infrastructure in the technical institute.



CORRESPONDENT

THIRU.G MUNIASAMY, B.TECH., MBA

Sakthi Polytechnic College is an Institution with a difference, started with the mission of providing quality technical education to rural youth at affordable cost. It is the vision of our beloved Founder Chairman Arutchelvar Dr. N Mahalingam, to empower the rural youth with technical knowledge and skills to train them as the most suited manpower to meet the needs and demands of the growing industrial scenario. We

ensure that with the vast potentials for growth and avenues for development, Sakthi Polytechnic College will enhance the capabilities and nurture the latent talents of youth to emerge as entrepreneurs rather than job seekers.



PRINCIPAL

**Dr.S.SENTHILARASU M.E.,Ph.D.,MISTE.,
PRINCIPAL (IN-CHARGE)**

Technology is the need of the hour. In this era of Globalization when there is a need for an enormous number of technically qualified personnel, Polytechnics play a vital role in supplying the Industries, the inputs of their choice. Keeping this in mind our beloved Founder Arutselvar Padma Bhusan Dr N. Mahalinam established Sakthi Polytechnic College with a foresight and vision in this predominantly rural and agricultural area of Sakthi Nagar. The main aim of this Institution is to bring technical education within the reach of the rural youth. We ensure that our Institution with its excellent infrastructure, well qualified staff and conducive atmosphere for learning will go a long way in motivating the rural students to become leaders of technology in future. With Sakthi to lead them, Technical Education is no longer a distant dream for rural youth but very much a reality within their reach.

**DIRECTOR****DR. K.R MUTHUSWAMY M.E., Ph.D.,**

“A desire can change nothing, a decision can change something but a determination can change everything”. It gives me immense pleasure to welcome you all to Sakthi Polytechnic College, an eco-friendly campus that strives with a goal to attain excellence by empowering students with sound knowledge, wisdom and experience. Our strength lies in creating pleasant ambience with an excellent infrastructure, qualified and experienced faculty, commitment to personal care, motivation to excel in academic/extracurricular activities and continuous interaction with industry. Over the past 41 years, the college has witnessed a strong blend of state-of-the-art infrastructure and dedicated human resource committed to provide professional education with thrust on creativity and innovation. The motivating environment in SPC for knowledge assimilation, generation and dissemination with a sense of social responsibility, human values and concern for environment has carved a niche for itself among the best technical Institutes.

HOD's Desk



I am pleased to lead the Department of Electronics and Communication Engineering at Sakthi Polytechnic College. Our department is dedicated to imparting quality technical education, with a strong emphasis on innovation, ethics, and practical learning. We aim to develop competent engineers who are industry-ready and socially responsible. To support this goal, we regularly conduct seminars, workshops, industrial visits, and hands-on training sessions. Our focus also extends to soft skills, wellness programs, and entrepreneurial development to ensure holistic student growth. The faculty team is highly committed and plays a key role in guiding and mentoring students. We also encourage strong industry-institute interaction and alumni engagement to bridge the gap between academics and real-world applications. I urge all students to stay motivated, embrace continuous learning, and actively participate in all academic and co-curricular initiatives. Together, let us work towards achieving excellence and building a better future.

– **Mr. K. Saravanan, M.E., M.S., Lecturer (Selection Grade I), HOD In-Charge**

VISION OF THE INSTITUTE

To excel in imparting value-based technical education to produce industry-competent engineers and socially responsible citizens.

MISSION OF THE INSTITUTE

M1: To impart transformative technical education through innovative teaching and learning methodologies.

M2: To enhance academia-industry partnership through internships and collaborative projects.

M3: To impart requisite skills to enhance employability and entrepreneurship.

VISION OF THE DEPARTMENT

To become a center of repute and to impart high-quality technical education in the field of Electronics and Communication Engineering to develop highly competent and ethical engineers.

MISSION OF THE DEPARTMENT

M1: To create a learning environment for excellence in the field of Electronics & Communication Engineering.

M2: To provide ethical and value-based education through various activities addressing societal needs.

M3: To instill self and continuous learning attitude, professional ethics, and entrepreneurial skills.

M4: To strengthen the industry-institute partnership through various interactions.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To prepare the students to take up careers in Communication Networking, Embedded Systems, VLSI Design, and Electronic Manufacturing Industries.

PEO2: To prepare the students to pursue higher education and adopt emerging trends through continuous learning.

PEO3: To prepare the students to become socially responsible and successful entrepreneurs.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Apply the fundamental concepts of Electronics and Communication Engineering in designing various systems and applications in domains like Communication, Networking, Embedded Systems, and VLSI.

PSO2: Simulate, verify, and test electronic circuits using state-of-the-art software tools.

Events Summary

INDEX OF ACTIVITIES (2025-2026)

S. No.	Name of the Event	Date
1	Freshers Party	23.06.2025
2	Induction Program (II Year)	11.07.2025
3	Forum Meeting - Instrumentation in Sugar Industry	11.07.2025
4	PCB Design Training - Nan Mudhalvan	25.07.2025
5	Induction Program - Alumni Interaction	28.07.2025
6	Book Festival Visit - CNC College, Erode	12.08.2025
7	Health & Wellness Trekking Program	25.08.2025
8	Forum Meeting - Basic Solid State Devices	05.09.2025
9	Project Committee Evaluation (III Year)	19.09.2025
10	Parents-Teachers Meeting (Odd Semester)	24-25.09.2025
11	Ayudha Pooja Celebration	30.09.2025

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

FRESHERS PARTY



INDUCTION PROGRAM



FORUM MEETING



CB DESIGN NANMUTHALVAN



INDUCTION PROGRAM-ALUMNI



BOOK FESTIVAL VISIT AT CNC COLLEGE, ERODE



HEALTH AND WELLNESS TREKKING PROGRAM – ECE II YEAR STUDENTS**Project Committee Evaluation – III Year ECE Students****Parents-Teachers Meeting**

Ayudha Pooja Celebration



DAB Meeting



Educational Tour



“Ulagam Ungal Kayil” Laptop Distribution Programme



Certificate of Appreciation

This Certificate of Appreciation is proudly presented to **Mr. V. Naveen Kumar, Lecturer/ECE**, in recognition of his dedicated service as a **TNPSC Trainer**.

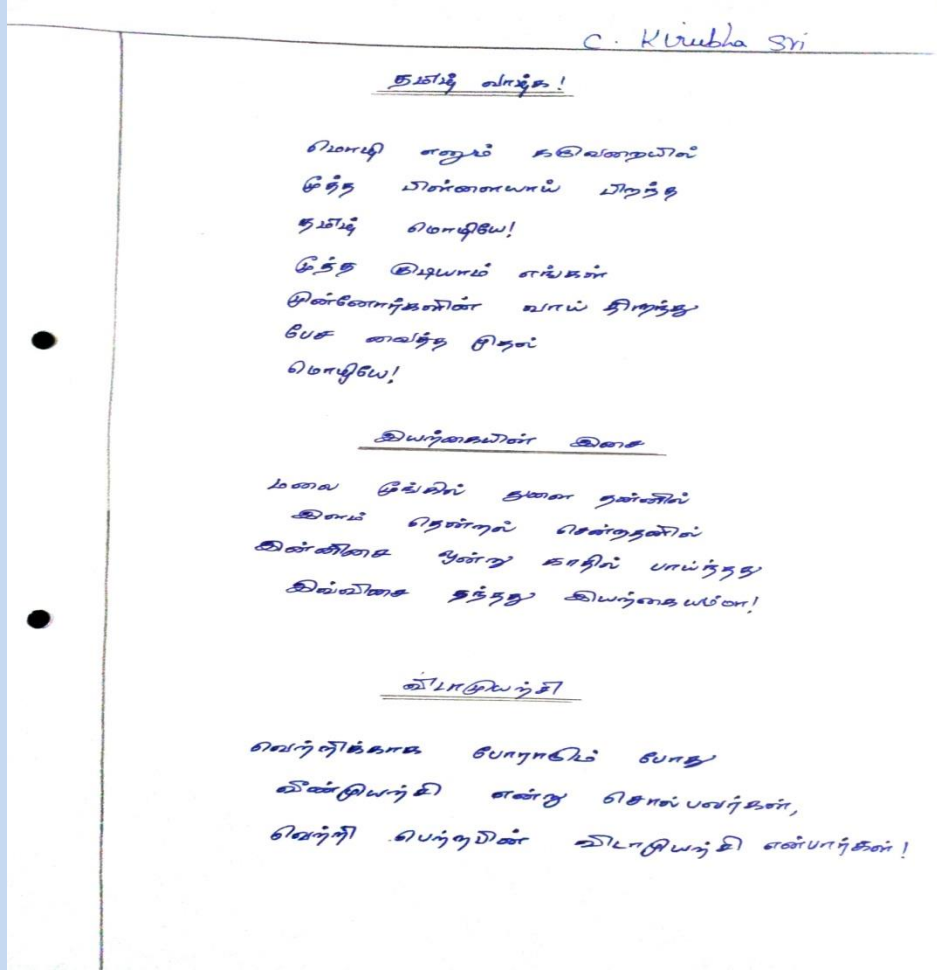
Your commitment to mentoring students, delivering quality training, and inspiring academic excellence is sincerely appreciated. Your valuable contribution has played a significant role in enhancing students' competitive examination preparedness.

We thank you for your dedication and wish you continued success in all your future endeavors.



STUDENT CORNER

KRIBHA SRI III YEAR



ARTICLE

Autonomous Vehicles and Vehicle-to-Everything (V2X) Communication: Driving the Future of Smart Mobility

The future of transportation is being shaped by **Autonomous Vehicles (AVs)** and **Vehicle-to-Everything (V2X) Communication**, two groundbreaking technologies that promise safer, smarter, and more efficient roads. Autonomous vehicles use advanced sensors, cameras, radar, LiDAR, Artificial Intelligence (AI), and machine learning to navigate and operate with little or no human intervention. V2X communication enables vehicles to exchange real-time information with other vehicles, road infrastructure, pedestrians, and communication networks, significantly improving road safety and traffic management.

V2X is a broad communication framework that includes **Vehicle-to-Vehicle (V2V)**, **Vehicle-to-Infrastructure (V2I)**, **Vehicle-to-Pedestrian (V2P)**, and **Vehicle-to-Network (V2N)** communication. By continuously sharing information such as vehicle speed, location, road conditions, traffic signals, and potential hazards, V2X helps prevent collisions, reduces traffic congestion, and enables smoother traffic flow.

One of the major advantages of autonomous vehicles is their ability to reduce accidents caused by human error, which accounts for most road incidents worldwide. AI-powered driving systems can detect obstacles, maintain safe distances, recognize traffic signs, and make rapid driving decisions. When combined with V2X communication, vehicles gain awareness beyond the range of their onboard sensors, allowing them to respond proactively to changing road conditions.

The applications of AV and V2X technology extend beyond passenger cars. They are being adopted in **public transportation**, **logistics**, **emergency response**, **smart highways**, and **connected urban mobility systems**. Autonomous buses, delivery vehicles, and intelligent traffic management systems are already being tested in several countries, demonstrating improvements in efficiency and sustainability.

The rollout of **5G and future 6G networks** is accelerating the development of V2X communication by providing ultra-low latency, high reliability, and fast data transmission. These communication technologies enable vehicles to exchange critical information within milliseconds, making real-time decision-making possible even in complex traffic environments.

Despite the exciting advancements, challenges such as cybersecurity, data privacy, regulatory standards, infrastructure development, and public acceptance remain. Engineers and researchers are working to develop secure communication protocols, reliable AI systems, and standardized V2X frameworks to ensure safe deployment.

V.NAVEEN
LECTURER/ECE

நிறைவுரை

"தொழில்நுட்ப உலகம் நாளுக்கு நாள் வளர்ந்து கொண்டே இருக்கிறது. அதனுடன் நாமும் அறிவையும் திறனையும் வளர்த்துக் கொண்டு, சமூக முன்னேற்றத்திற்கு பங்களிப்போம்"

இறுதி கையொப்பம் (Newsletter Closing)

அன்புடன்,

ஆசிரியர் குழு (Editorial Board)

மின்னணுவியல் மற்றும் தகவல் தொடர்பியல் துறை

கல்வியாண்டு : 2025-2026

"அறிவால் உயர்வோம் • புதுமையால் முன்னேறுவோம் •
தொழில்நுட்பத்தால் உலகை மாற்றுவோம்."