K.S.R COLLEGE OF ENGINEERING

25 YEARS 2001 - 2026 Celebrating Academic Excellence

(APPROVED BY AICTE & AFFILIATED TO ANNA UNIVERSITY)

K.S.R. KALVI NAGAR,TIRUCHENGODE - 637 215

VOL 27

ISSUE 01

DEPARTMENT OF AUTOMOBILE ENGINEERING

AUTOEVON'25 MAGAZINE

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

(Approved by AICTE, Affiliated to Anna University, Accredited by NAAC A+ Grade

K.S.R. Kalvi Nagar, Tiruchengode-637215, Namakkal District, Tamil Nadu.

DEPARTMENT OF AUTOMOBILE ENGINEERING

AUTOEVON'25

TECHNICAL MAGAZINE

(Volume 27 / Issue 01 / December 2025)

ACADEMIC YEAR 2025-2026

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

With the Blessings of our Beloved Founder's

Forever in our hearts,

Forever in our thoughts!

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

Chairman's Message

Vision looks in ward and become duty.

Vision looks outward and become aspiration.

Vision looks upward and become faith.

Shri R. Srinivasan BBM., MISTE.,
Chairman, KSR Educational Institutions.

Education is the foundation of a brighter tomorrow, and this magazine reflects the vibrant spirit of our learners. May it continue to inspire creativity, excellence, and lifelong curiosity in every reader. In the recent times, the role of KSRCE is to carry out proactive research and development activities to make the students as well as faculty member's intellectuals, which are very challenging and demanding. It is of great significance that this magazine is going to deliberate upon It will definitely explore new areas of practice and enhancing quality of professional services. I am sure this magazine will be a milestone in ensuring the highest standards in this profession. I wish the organizers the very best in this and all their other endeavors. I am eagerly looking forward to seeing you and enjoying this magazine.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

Vice Chairman's Message

Mr. K. S. Sachin,
Vice Chairman, KSR Educational Institutions.

At KSRCE, we stand at the intersection of tradition and transformation, committed to shaping a future driven by knowledge, innovation, and values. While our roots are firmly grounded in a legacy of academic excellence, our vision extends beyond boundaries, preparing students to excel in an ever- evolving global landscape. Our goal is to create a dynamic learning ecosystem that fosters critical thinking, technological prowess, and ethical leadership. We envision KSREI as a hub of intellectual growth, where students are empowered with 21st-century skills while embracing the timeless virtues of integrity, perseverance, and service. Looking ahead, we aim to integrate cutting-edge advancements in education, strengthen industry collaborations, and expand global opportunities for our students. With a deep commitment to holistic development, we continue to nurture future leaders who will shape society with wisdom and purpose. Together, we build the future—rooted in values, driven by vision.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

Dean's Message

Dr. M. Venkatesan
Dean – KSRCE

I am delighted to extend my warm wishes to the Department of Automobile Engineering for the successful launch of the AUTOEVON'25 magazine. This remarkable initiative stands as a reflection of the department's unwavering commitment to fostering knowledge sharing, innovation, and awareness in the dynamic and ever-evolving field of Automotives.

The insightful contributions from both students and faculty members, as showcased in this magazine, are a true testament to their dedication, creativity, and technical excellence. It is encouraging to see such a platform being established to spotlight emerging trends, thought- provoking perspectives, and real-world applications in Automobiles.

I wholeheartedly encourage everyone to actively engage with AUTOEVON'25, leveraging it as a valuable medium to share insights, explore new ideas, and collaboratively strengthen the cybersecurity ecosystem. My heartfelt congratulations to the entire team behind AUTOEVON'25 for their exceptional efforts and vision.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

Principal's Message

Dr. P. Meenakshi Devi,
Principal – KSRCE

As a Principal of KSRCE, I actively play my role to facilitate students to become best academicians, researchers and policy makers. I provide a diverse and inclusive work environment to my colleagues and drive them wherever necessary to play a role in getting utmost national and international agencies support Institution. A collaborative and integrated approach towards teaching, learning and research will be emphasized. I strongly believe that the KSRCE team will overcome the constraints facing to deliver the best Engineering services to the society and reach the desired goals.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

HOD'S Message

Prof. Dr. R.VENKATACHALAM.,
Head of the Department - AE

It is a pleasure to present this edition of our Automobile Engineering magazine. Our department continues to push the boundaries of innovation, merging engineering principles with Automotive to develop impactful Automotive Sector. Our students and faculty are driving meaningful change. This magazine highlights their inspiring work, research, and achievements. We take pride in nurturing a culture of curiosity, collaboration, and excellence. As we move forward, we remain committed to shaping the future of Automotives through technology, creativity, and dedication.

On behalf of the editorial board, proudly presenting ***AUTOEVON'25*** designed with a vision to quench the thirst by layering a platform for innovative ideas. The soul of creativity lies in the dream to unveil inherent talent. The power of this dream fuelled us forward and made ***AUTOEVON'25*** a reality. We are thankful to all who contributed to fulfil our dream. First and foremost, let me thank our chairman who was always with us, to provide a wonderful platform to nourish the talents. I extend my sincere thanks to Principal who were always in the forefront to encourage and inspire to execute wonderful ideas. I thank all students and faculty coordinators for their overwhelming support to bring out ***AUTOEVON'25***. I also wish all outgoing students of 2025 a bright future ahead.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

AUTOEVON'25

CHIEF PATRON

Shri. R. Srinivasan

Chairman, KSR Educational Institutions

PATRON

Mr. K. S. Sachin

Vice Chairman, KSR Educational Institutions

ADVISORS

Dr. M. Venkatesan,

Dean, K. S. R. College of Engineering

Dr. P. Meenakshi Devi,

Principal, K. S. R. College of Engineering

Dr. R.Venkatachalam

Mentor, AE

EDITORIAL BOARD

FACULTY COORDINATORS

Dr. S. Neelamegan, ASP/AE,

Dr. M. Syed Thasgir, AP /AE,

STUDENT COORDINATORS

73152211017 - SREEKARAN M V, IV AE

73152211504 - DHANUSH S, IV AE

73152311031 - YOGITH S K, III AE

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

VISION OF THE DEPARTMENT

To provide quality education, facilitate research and innovation to meet the global demand in automotive industries and society.

MISSION OF THE DEPARTMENT

DM 1: Impart quality education through flexible curriculum and higher learning.

DM2: Provide training through automotive industrial collaboration for global needs.

DM3: Enhance research and innovation for sustainable environment.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

DEPARTMENT PROFILE

The Department of Automobile Engineering (AE) was started in the year 2009 with an intake of 60 students. Over the years the Department has steadily grown and currently the student's intake is 60. Along with B.E., the Department also offers Ph.D., degree Programme. The Department of Automobile Engineering and its stakeholders work together to create a stimulating, diverse and positive learning environment to gain knowledge. We strive to provide the highest quality of education to our students, so they can become true leaders and outstanding citizens. We constantly endeavor for research activities that will contribute to the well-being of people, the economy and the environment all over the world. As a community of individuals who value true excellence and preeminence, we seek to compete and empower one another to reach our full potential while caring for others and our environment.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1:

Core Competency: Apply technical knowledge in automobile engineering field

PEO 2:

Professionalism: Impart inter-disciplinary skills and innovations for challenges emerging in automobile sector.

PEO 3:

Career Development: Enrich knowledge, communication, professional ethics and leadership skills.

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

PROGRAM OUTCOMES (POS)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

K. S. R. COLLEGE OF ENGINEERING

An Autonomous Institution

PROGRAM SPECIFIC OUTCOMES (PSOS)

PSO 1:

Professional competency: Design and analyze automotive components, electrical and electronic systems.

PSO 2:

Troubleshoot Skills: Develop as a professional in maintenance and service of automotive systems

Battery Technology

Vimal S Kavya Sree V

Builders Engineering College
Kangayam

Abstract:
Battery technology focuses on the development and improvement of energy storage systems that power devices and vehicles. Innovations in materials and design, such as lithium-ion and solid-state batteries, enhance energy density, charging speed, and lifespan, driving advancements in renewable energy and electric mobility.

Hydrogen Fuels

Kavin M Sree nithi K

Sona College of Technology
Salem

Abstract:
Hydrogen fuel is a clean energy source produced from water or hydrocarbons, offering a sustainable alternative to fossil fuels. It generates power through fuel cells with water as the only byproduct, making it an attractive option for reducing greenhouse gas emissions and enhancing energy security in transportation and industrial applications.

Digital Manufacturing

Chandru R Venkatesh M

Selvam Engineering College
Namakkal

Abstract:
Digital manufacturing uses advanced technologies like automation, data analytics, and 3D printing to improve production processes. It allows manufacturers to collect real-time data, make smarter decisions, and create products more efficiently. This approach helps reduce costs, customize products, and improve supply chains, making manufacturing faster, more flexible, and innovative.

E-Vehicle Technology

Manikandan K Abishek M

PSG College of Technology
Coimbatore

Abstract:

Electric Vehicle (EV) technology represents a paradigm shift in the automotive industry, driven by advancements in sustainable energy and the need for reducing carbon emissions. EVs are powered by electric motors that draw energy from onboard batteries, which are typically lithium-ion based. The technology underpinning EVs encompasses a wide range of systems, including battery management systems (BMS), regenerative braking, electric powertrains, and advanced thermal management for efficiency and safety.Key developments in EV technology include improvements in battery energy density, which directly influences vehicle range and charging time. Fast-charging infrastructure and wireless charging innovations are also pivotal in enhancing the convenience and usability of EVs.

Green Hydrogen Fuel

Abinesh.M Arun Kumar.K

Park College of Technology
Coimbatore

Abstract:

Green hydrogen fuel is produced through the electrolysis of water using renewable energy sources, such as wind and solar power, making it a zero-emission energy carrier. It holds significant potential as a clean alternative for industries like transportation, manufacturing, and energy storage. Unlike fossil fuels, green hydrogen emits no greenhouse gases when used, offering a sustainable solution for decarbonizing hard-to-electrify sectors. Ongoing advancements in production efficiency and cost.

Fuel Less Engine

Kesavan.R Ravikumar.K

PSG College of Technology
Coimbatore

Abstract:

Electromagnetic theory is doing important role in all fields of engineering. In this paper we plan to work in the field of electromagnetics. In general everyone know that the property of magnet. In this paper we use electromagnet and nano ferric permanent magnet. Using the different polarity of magnet piston movement is realized. An improved engine construction having a reciprocating piston attached to a rotating crankshaft contains, proximate the piston head, a permanent magnet. A cylinder, confining the piston, has a head with an electromagnet located therein. The fuzzy logic controls the reverses the polarity of the electromagnet, thus alternately attracting and repelling the piston and driving the attached rotating crankshaft.

Drone Technology

Aniketh G Gowdham S

Kumaraguru College of Technology
Coimbatore

Abstract:

Drone technology involves the use of unmanned aerial vehicles (UAVs) for various applications such as surveillance, delivery, agriculture, and photography. Equipped with sensors and cameras, drones can perform tasks remotely, offering increased efficiency, precision, and access to areas difficult or dangerous for humans.

ClariMed: AI based Prescription & Medicine Scanner

Lothika K Rajasree M

Erode Sengunthar Engineering College
Perundurai

Abstract:

Patients often face difficulty understanding prescriptions due to illegible handwriting or lack of details. This project proposes a mobile application that scans prescriptions/receipts and extracts medicine information using OCR (Google ML Kit). The app provides clear details of medicine name, expiry date, dosage, and quantity.

Key outcomes: Patient safety, awareness, and convenience in medicine management.

Shopping Helper Bot

Muthupandi M
N.S.N College of Engineering and Technology
Karur

Abstract:
The "Shopping Helper Bot" is an innovative project developed within the UiPath Automation Community to revolutionize the in-store shopping experience. With the integration of UiPath's advanced automation capabilities, including Robotic Process Automation (RPA), this bot provides personalized assistance and interactive guidance to shoppers. The bot addresses common challenges such as time-consuming navigation, information overload, and limited staff assistance by offering real-time product details, reviews, and personalized recommendations. Key features include store navigation, product search, and performance optimization through User Acceptance Testing (UAT).

Smarter Stock, Safer Health Medical Shop Inventory & Stock Alert System

Gowshika P Kalaibharathi K
Erode Sengunthar Engineering College
Perundurai

Abstract:
The Inventory and Stock Alert System for Medical Shops is a digital solution tailored to enhance pharmaceutical inventory management. This system is designed to prevent stock mismanagement, expired medicines, and manual billing errors by automating key processes. Users can efficiently add, update, or delete medicine records including crucial details like quantity, price, and expiry date.

Smart Manufacturing: The Digital Revolution in Industry

Vetrivel M
Gnanamani College of Technology
Namakkal

Abstract:
In summary, digital manufacturing leverages advanced digital tools and data-driven methodologies to transform traditional production processes into intelligent, connected, and highly adaptive systems. By integrating technologies such as computer-aided design (CAD), simulation, automation, and real-time data analytics, digital manufacturing enhances productivity, precision, and sustainability across all stages of production. This transformation enables manufacturers to achieve greater flexibility, reduce costs, minimize errors, and accelerate innovation. As a result, digital manufacturing plays a vital role in shaping the future of the industrial landscape, aligning with the demands of Industry 4.0 and modern market expectations.

The Evolution of Digital Manufacturing: Transforming Production Through Data-Driven Innovation

Muthu Kavi K

Gnanamani College of Technology
Namakkal

Abstract:

Digital manufacturing represents a revolutionary shift from traditional production methods to intelligent, data-driven systems. By integrating advanced digital tools such as automation, artificial intelligence, and the Internet of Things (IoT), manufacturers can optimize every stage of the production cycle—from design and simulation to real-time monitoring and quality control. This transformation enables greater efficiency, flexibility, and precision, while reducing waste and production costs. Ultimately, digital manufacturing empowers industries to rapidly adapt to changing market demands, drive innovation, and deliver high-quality products in today's competitive global landscape.

****


K.S.R. COLLEGE OF ENGINEERING
TIRUCHENGODE, INDIA
WHERE FUTURE BEGINS