>>> EEE NEWSLETTER <<<

ENLYTUS

AUGUST'25 EDITION

>>> DEPARTMENT ACTIVITIES

>>> FACULTY ACHIEVEMENTS

>>> STUDENT ACHIEVEMENTS

>>> TECH BEATS

VISION OF DEPARTMENT

To be an exemplary department in Electrical Engineering to facilitate value imbibed quality professionals.

MISSION OF DEPARTMENT

1.Impart state of the art knowledge in Electrical and Electronics Engineering Field.

2. Inculcate the culture of research and lifelong learning.

3.Facilitate the professionals with commitment towards Social & Ethical Values.

PROGRAMME EDUCATIONAL OBJECTIVES

1. Graduates will handle the modern tools and take diverse career paths / research / higher education.

2. Graduates will excel with managerial and leadership qualities.

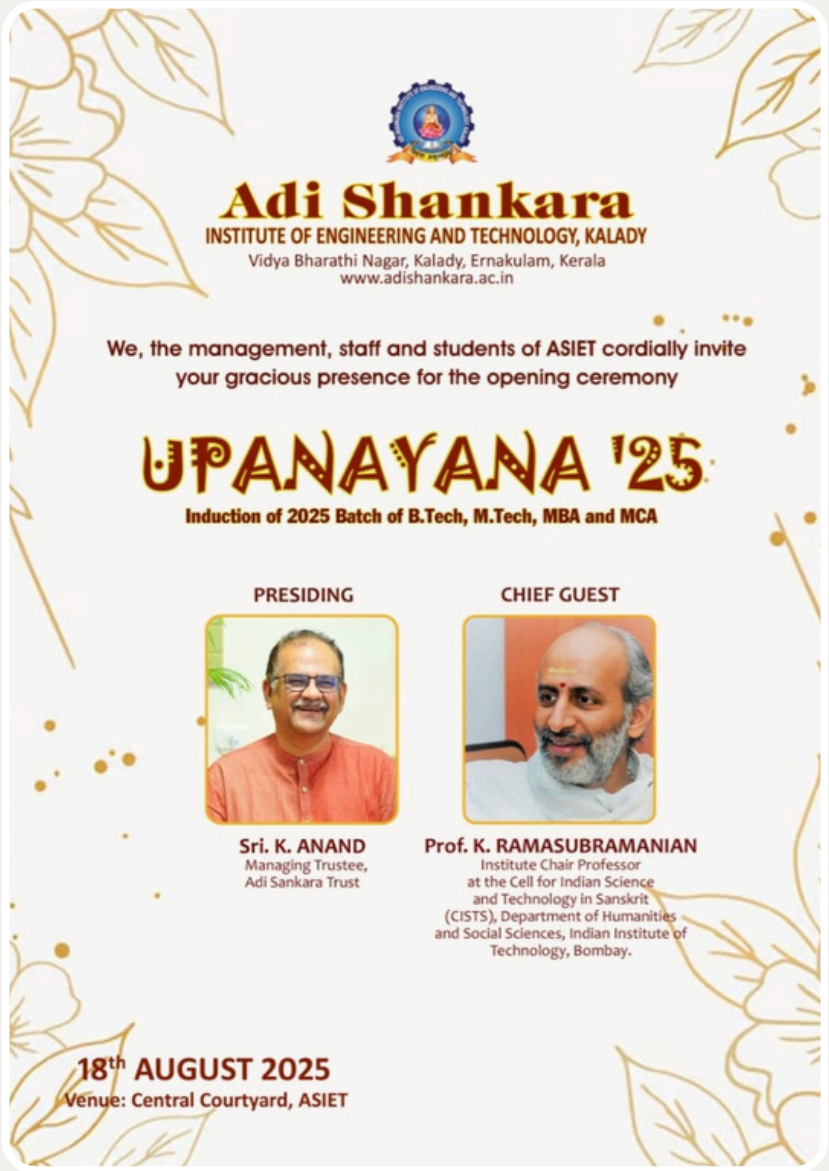
3. Graduates will have skills to work in teams with integrity & ethical values.

PROGRAMME SPECIFIC OUTCOMES:

1. Gradate will be able to apply fundamental knowledge of Electrical and Electronics Engineering to identify, analyse, and solve complex problems related to Power Systems, Electrical Machines, Control Systems, Power Electronics and Electrical System Design.

2. Graduates will be able to apply core Electrical and Electronics Engineering knowledge with advanced Computational Intelligence skills to develop innovative and sustainable solutions for societal, environmental and industrial needs.

UPANAYANA'25



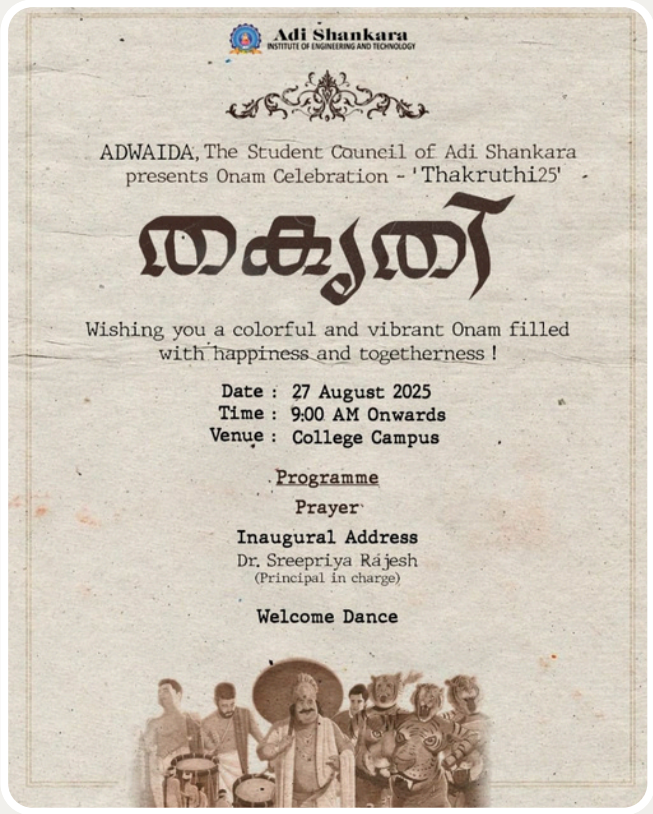
On August 18, 2025, the college hosted, "Upanayana '25" at the Central Courtyard, marking the induction of the 25th Batch of B.Tech, 16th Batch of M.Tech, 22nd Batch of MBA and 3rd Batch of MCA students. The ceremony was presided over by Sri. K. Anand, Managing Trustee, Adi Shankara Trust. Prof. K. Ramasubramanian, Institute Chair Professor at the Cell for Indian Science and Technology in Sanskrit (CISTS), IIT Bombay, graced the occasion as Chief Guest. The event inspired students to embark on their academic journey with vision, dedication, and a spirit of excellence.

INDUCTION '25

From 19 to 26 August 2025, the first-year students attended their Induction Programme featuring department familiarization, KTU awareness, campus visits, professional body introductions, alumni talks and awareness sessions.

DEPARTMENT ACTIVITIES

THAKRITHI ‘25



The college celebrated Onam with grandeur and joy through Thakrithi'25, organized by ADWAIDA, the Student Council, on 27 August 2025. The campus was filled with colors, music and cultural expressions that highlighted the traditions of Kerala. Students and faculty joined together in festive spirit, sharing happiness, unity and the essence of togetherness that Onam represents. The celebration truly reflected the cultural richness and harmony of the occasion, leaving everyone with cherished memories.

DEPARTMENT ACTIVITIES

IBM SKILLS BUILD

An IBM Skills Build session was conducted on 11 August 2025 in the college auditorium for S7, S5 and S3 EEE students. The session introduced IBM Skills Build certifications and resources, helping students explore industry-relevant skills and career opportunities while motivating them to strengthen their technical knowledge and competencies.

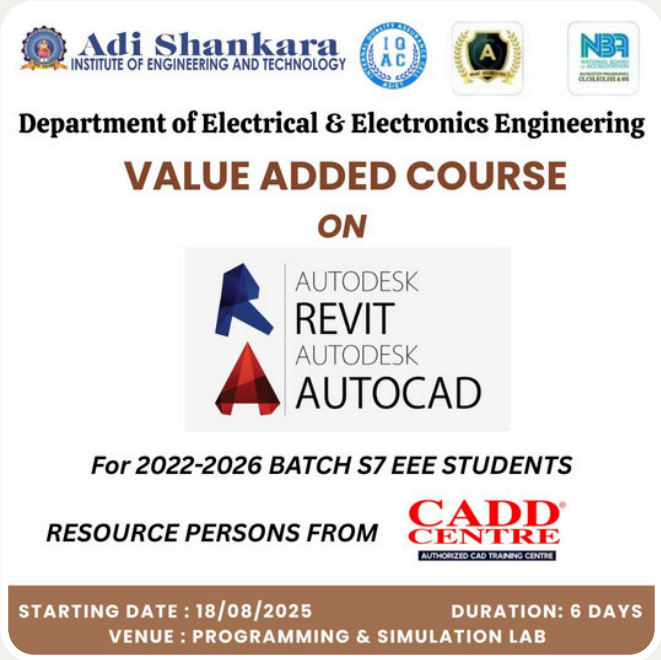
DEPARTMENT ACTIVITIES

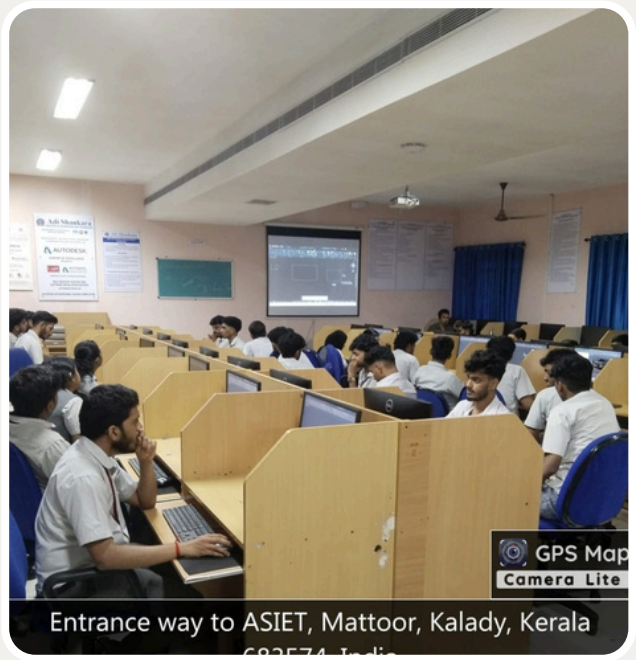
CAREER GUIDANCE

The EEE Department organized a seminar on, "Career Opportunities after B.Tech through GATE" on 5 August 2025. The session was conducted for the 2022–26 EEE batch in association with ACE Engineering Academy and Ace Online. The resource person, Mr.Pabba Ramesh, motivational speaker and faculty at ACE Academy, shared valuable insights into the importance of GATE, its role in pursuing higher studies, research opportunities, and career growth in PSUs and top institutions. The seminar inspired students to plan their academic and professional journey with focus and determination.

DEPARTMENT ACTIVITIES

VALUE ADDED COURSE

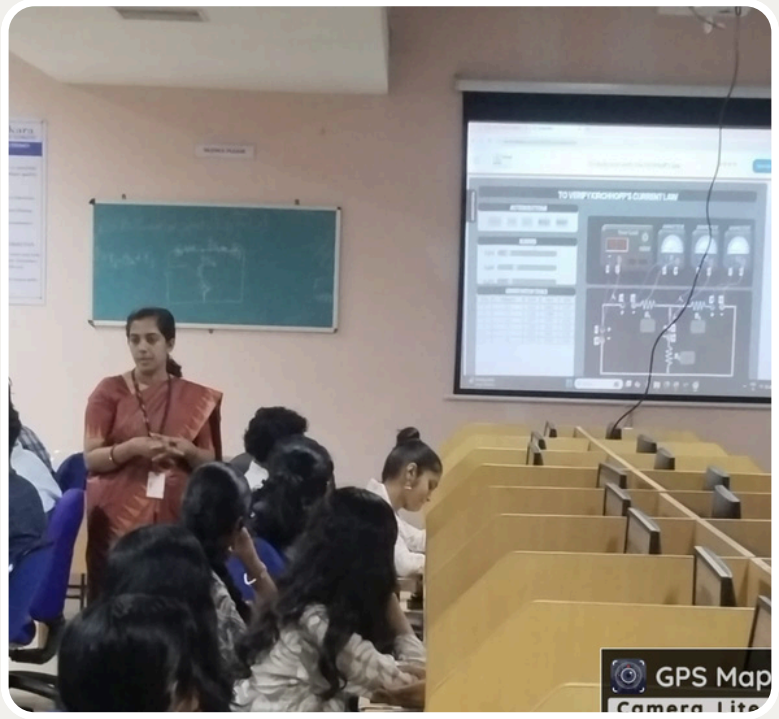




The EEE Department along with IQAC organized a six-day Value-Added Course on AutoCAD and Revit for the S7 EEE students. Commencing on 18 August 2025, the sessions were held in the Programming and Simulation Lab and were handled by expert resource persons from CADD Centre. The course aimed to provide students with practical exposure to advanced design and drafting software, equipping them with essential technical skills required in engineering design, construction and industry applications. The program enriched students' knowledge and prepared them for future professional challenges.

DEPARTMENT ACTIVITIES

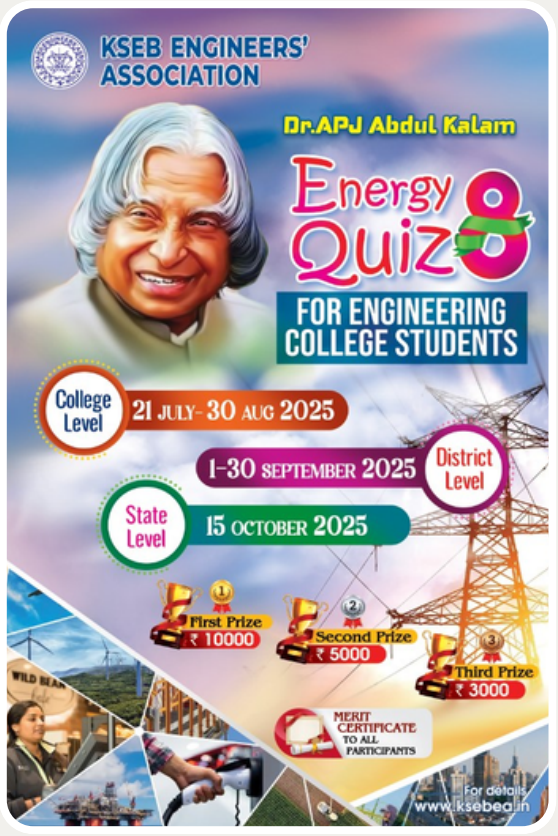
VIRTUAL LAB SESSION

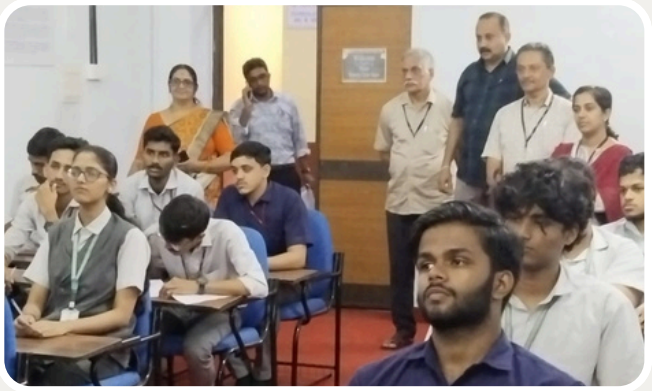


The Department of Electrical and Electronics Engineering conducted a Virtual Lab session for S1 EEE students on 20 August 2025. The session was held in the Programming and Simulation Lab and was handled by Ms.Anna Baby. The interactive class provided students with practical exposure to virtual laboratory tools, helping them strengthen their foundational concepts and develop a hands-on approach to learning.

DEPARTMENT ACTIVITIES

ENERGY QUIZ 2025





The Department of Electrical and Electronics Engineering, in association with the Quiz Club and KSEB Engineers' Association, organized the Dr. APJ Abdul Kalam Energy Quiz Eighth Edition at the college level on 21 August 2025. The event was held at 12:45 pm in the EEE Seminar Hall and witnessed enthusiastic participation from students, showcasing their knowledge on energy, power and sustainability.

DEPARTMENT ACTIVITIES

ALUMNI INTERACTION

The EEE Department organized an Alumni Interaction on 21 August 2025 for the first-year EEE students (Batch 2025–29). The session featured Sanchu M, an alumnus from the 2021–25 EEE batch and entrepreneur at Mana Couture India. He shared his journey, experiences and insights, inspiring the students to pursue their passions with confidence and determination.

DEPARTMENT ACTIVITIES

ALUMNI INTERACTION

The EEE Department organized an Alumni Connect session on 22 August 2025 for S5 and S7 EEE students. The session was led by Ms.Daliya Joseph, an alumna from the 2017–21 EEE batch and Senior Project Manager at Qilin Software Labs. She shared her valuable insights on project management, bridging academic learning with industry practices and guided students on building essential skills for career growth.

FACULTY ACHIEVEMENTS

- Dr.Sreena Sreekumar reviewed the manuscript titled, “A Robust Hybrid Machine Learning Model for Predicting Short-Term Photovoltaic Power Output: Integrating CatBoost and HGBoost” in the Electrical Engineering Springer Nature journal.

- Dr.Sreena Sreekumar participated in the IEEE Authorship and Open Access Symposium: Tips and Best Practices to Get Published from IEEE Editors held on 4 September 2025. The live webinar featured insights from Dr. Gaurav Sharma (University of Rochester), Ranbir Sedhey (IEEE India), and Collin Dmello (IEEE International Area Manager). The session provided valuable guidance on effective manuscript preparation, open access publishing, and strategies to enhance research visibility.

- Mr.Alan Mathew George presented the paper titled, “Analysis of simultaneous power quality issues compensation capabilities of custom power devices and their control system” at the Eighth International Conference (IEEE) for Circuit Power and Computing Technologies (ICCPCT '25) at Baselios Mathews II College of Engineering , Kollam and was conferred the best paper award.

- Prof.Anitha P won the poetry consolation prize at the Nineth K. Pankajakshi Amma Memorial Competition, organized by Devaja Magazine.

- Dr.Deepa Sankar served as the Reviewer for the Fourteenth IEEE International Conference on Renewable Energy Research and Applications to be held from 27 to 30 October 2025 at Vienna, Austria.

STUDENT ACHIEVEMENTS

C Arjun, K A Abhijith, Athul Krishna V P and Donel T J (2021-25 EEE) successfully presented their research paper titled, "SolarSync: Smart EV Charger with V2H Power" at the Eighth IEEE International Conference on Circuit, Power and Computing Technologies (ICCPCT 2025). The prestigious conference was held on 7 August 2025 at Baselios Mathews II College of Engineering, Kollam. Guided by their mentors, Ms.Ashna Mohan and Dr.Subiramoniyan S, the team showcased an innovative solution that combines solar energy with electric vehicle charging and Vehicle-to-Home (V2H) power transfer, reflecting their technical skills and creativity.

STUDENT ACHIEVEMENTS

The Department of Electrical and Electronics Engineering, in association with the Quiz Club and KSEB Engineers' Association, conducted the Dr. APJ Abdul Kalam Energy Quiz 2025 at the college level on 21 August 2025 in the EEE Seminar Hall. The event saw active participation from students, showcasing their knowledge on energy and sustainability. Aravind N of S5 EEE and Aswin Sivan of S7 EEE emerged as the winners of the competition.

STUDENT ACHIEVEMENTS

Students from S5 EEE and S3 EEE actively took part in the Energy Transition Conclave 2025, held on August 22, 2025 at Town Hall, Ernakulam. The event was organized by the IEEE Power & Energy Society (PES) Kerala Chapter in collaboration with InSDES and KSEBOA. As part of the conclave, a Poster Presentation Competition on the theme, "Cutting Edge Energy Transition" was conducted. Four EEE students – Athul Krishna T S, Jeon Jiju, Sreelakshmi V Prabhu from S5 EEE and Rinu Reji from S3 EEE under the guidance of Dr.Deepa Sankar, Ms.Gomathy S, Dr.Sreena Sreekumar (EEE Department) and Dr.Anand Krishnamoorthy (BSH Department) – represented the college and proudly secured the second prize, marking a commendable achievement.

STUDENTS ACHIEVEMENTS

ASIET has created history by becoming the first college in Kerala and the first engineering college in India to establish a Scouts and Guides unit. Adding to this proud legacy, the institution's first Rover Ranger batch has achieved a national milestone by becoming the first in India to receive the prestigious Rajyapuraskar (Governor's Award). The award-winning team includes EEE students Navaneeth M Ganesan, Aravind V Rao, Balagopal V Nair, Sukhjeeth Kaur, Niranjan P M and Kiran Prasad from the 2022–2026 batch, along with Jishnu Sasikumar from RA. Their success was guided by the dedicated mentorship of Ms.Meenakshi Sankar.

STUDENTS ACHIEVEMENTS

IEEE IAS SBC ASIET, in collaboration with IEEE PELS SBC GECT and IEEE IAS SBC NCERC, organized LA GUERRE 3.0 under the IEEE IA/IE/PELS Joint Chapter Kerala. As part of the series, the ELEVATE session held on 19 August 2025, Kochuthresia Anietta P.S (S7 EEE) delivered an inspiring talk on the value of a purpose-driven IEEE membership. Serving as the Humanitarian Activity Coordinator, she shared powerful insights on how IEEE membership can go beyond professional growth to create meaningful social impact. Her inspiring words resonated deeply with participants, motivating them to embrace service, innovation, and strengthen their IEEE journey.

STUDENTS ACHIEVEMENTS

IEEE Education Society Kerala Chapter hosted Odyssey: Session 2 on Cyber Security SecOps on August 25, 2025. The session was led by Brian Roy Mathew (S5 EEE), Research Activities Co-Ordinator, IEEE EdSoc Kerala Chapter. He provided participants with valuable insights into security operations, emphasizing proactive defense strategies and effective protection of digital assets. The session enhanced participants' awareness of the growing significance of cybersecurity in today's digital world, equipping them with essential knowledge to navigate modern security challenges effectively.

STUDENTS ACHIEVEMENTS

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Department of Electrical & Electronics Engineering

B . Tech EEE 2022-2026 Batch

S6 B.Tech KTU Results

8.15

FEBA ELDO

7.54

AISHA SAHALA P K

7.91

ABHIJITH N S

7.46

NANDANA K B

7.43

ANASWARA P S

7.25

SAURAV KRISHNAPRASAD

7.17

ABEL BABU

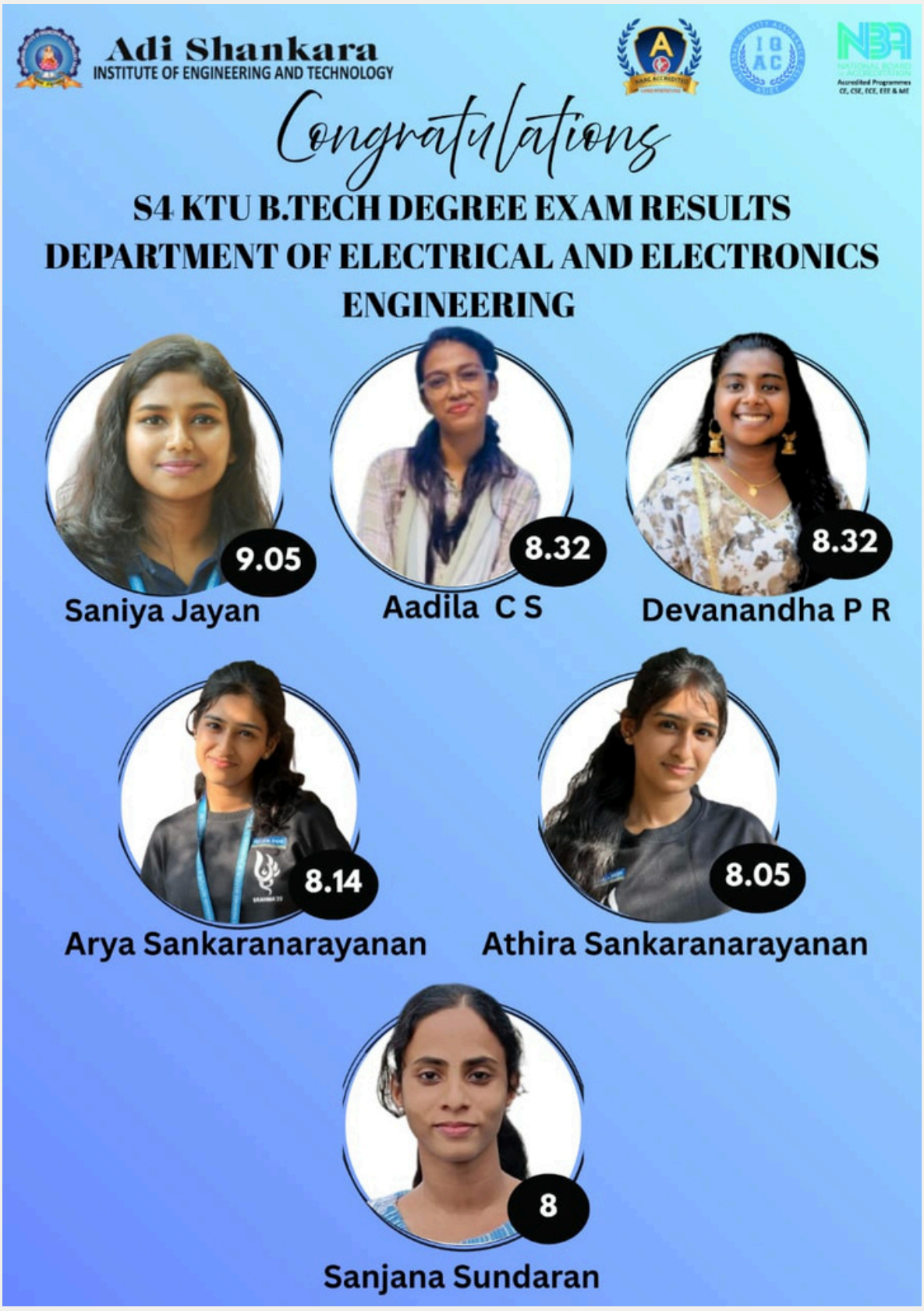
7.11

KOCHUTHRESIA ANIETTA P S

7.06

FATHIMA NOURA RIYAS

STUDENTS ACHIEVEMENTS



STUDENTS ACHIEVEMENTS

IEEE IAS SBC ASIET

IEEE IAS SBC ASIET, in collaboration with IEEE PELS SBC GECT and IEEE IAS SBC NCERC, organized LA GUERRE 3.0 under the IEEE IA/IE/PELS Joint Chapter Kerala. The series featured ELEVATE, a membership development session on 19 August 2025, PromptSphere, a 24-hour AI prompting competition on 29 August 2025, and TECHSPIRE, a session on hardware and networking on 31 August 2025. These events encouraged learning, innovation, and collaboration, bringing students and professionals together to share knowledge and explore new opportunities.

5G/6G APPLICATIONS IN SMART ENERGY NETWORKS

Harsh R Nair
S7 EEE

Introduction

The global energy landscape is undergoing a massive transformation. Traditional power systems, which once relied on one-way energy flow from centralized stations to consumers, are now evolving into smart energy networks—intelligent, dynamic, and highly interactive. These networks rely heavily on fast, secure, and reliable communication. This is where 5G and the upcoming 6G wireless technologies play a game-changing role. With their ultra-low latency, massive device connectivity, and integration of artificial intelligence (AI), they are set to revolutionize how we generate, distribute, and consume electricity.

Why 5G and 6G?

The step from 4G to 5G is not just about faster mobile internet—it's about creating a communication backbone capable of supporting millions of devices simultaneously. Key features include:

- Ultra-low latency (<1 ms) for real-time control of power systems.
- High bandwidth for data-heavy applications such as grid monitoring.

- Massive IoT connectivity, enabling millions of smart meters, sensors, and EV chargers.
- High reliability and security, essential for critical infrastructure.

6G, expected around 2030, takes this further with:

- AI-native networking for self-optimizing grids.
- Terahertz communication for ultra-fast data transfer.
- Seamless integration of edge computing, enabling real-time decision-making at the grid level.

Applications in Smart Energy Networks

1.Smart Grid Communication

5G ensures that utilities can monitor, control, and balance loads in real-time. For example, if there's a sudden surge in demand, the grid can instantly redistribute energy, preventing blackouts.

2.Smart Meters and IoT Devices

Millions of households and industries now use smart meters. 5G enables these devices to send usage data instantly, supporting demand-response programs where customers adjust consumption based on real-time pricing.

3.Renewable Energy Integration

Solar and wind are variable by nature. With 5G, real-time data from weather stations, energy storage systems, and distributed energy resources can be analyzed to balance supply and demand seamlessly.

4.Electric Vehicles and Charging Infrastructure

As EV adoption grows, grids face the challenge of unpredictable charging loads. 5G allows dynamic load management, scheduling charging during off-peak hours, and even enabling vehicle-to-grid (V2G) systems, where EVs supply power back to the grid.

5.Fault Detection and Self-Healing Grids

Using 5G-powered sensors, faults in transmission lines or substations can be detected instantly. Combined with AI and automation, the grid can "self-heal" by rerouting power, reducing downtime.

6.Microgrids and Peer-to-Peer Energy Trading

5G enables localized grids, where communities generate and trade energy directly. Blockchain combined with fast communication creates secure, decentralized energy markets.

Case Studies & Research

- Europe: Several pilot projects in Germany and the Nordic countries are testing 5G-enabled smart grid platforms. Utilities use them to integrate high shares of wind power.
- China: Research on 6G-driven smart cities envisions AI-powered distribution networks with minimal human intervention.
- India: Smart meter rollouts are expected to benefit from 5G's low-cost, wide-area connectivity, making nationwide energy efficiency programs more viable.

Challenges Ahead

While promising, 5G/6G adoption in energy networks faces hurdles:

- Cybersecurity: More connectivity means greater exposure to cyberattacks.
- Infrastructure costs: Upgrading existing grids with 5G nodes and sensors requires significant investment.
- Standardization: Interoperability between devices, utilities, and telecom providers must be ensured.
- Energy consumption of networks: Ironically, 5G networks themselves consume significant power, which must be offset by efficiency gains.

Future Prospects with 6G

6G's vision goes beyond connectivity—it aims for AI-native, autonomous grids. Imagine a future where:

- Power systems automatically balance renewable inputs with demand.
- AI agents trade energy between households in real-time.
- Edge devices make split-second decisions to avoid blackouts.

By 2035, smart energy networks powered by 6G could deliver not only greater efficiency but also climate resilience, enabling humanity's transition toward carbon-neutral societies.

Conclusion

The fusion of communication and energy is one of the defining shifts of the 21st century. As 5G networks expand and 6G looms on the horizon, smart energy systems will become faster, smarter, and more sustainable. For electrical and electronics engineers, this presents a golden opportunity to innovate at the intersection of power systems, IoT, and AI.

The smart energy network of tomorrow will not just deliver electricity—it will deliver intelligence.

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