# Department of Electronics Engineering
# NEWSLETTER

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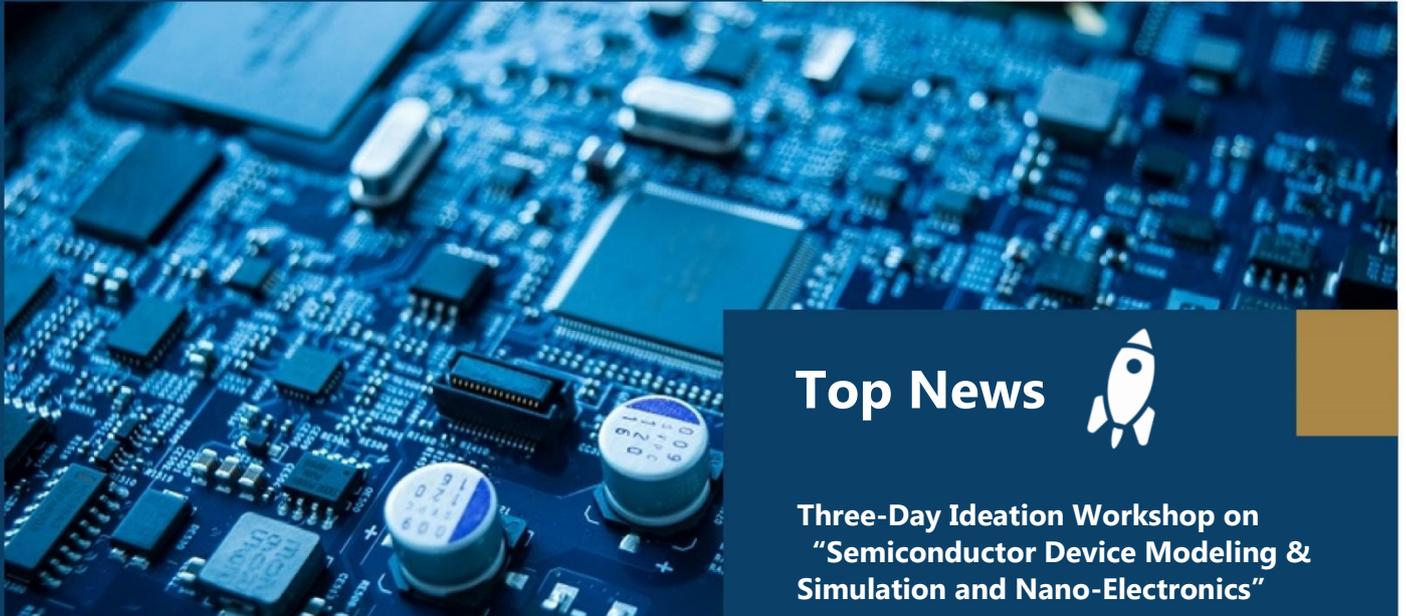
## Top News

**Three-Day Ideation Workshop on "Semiconductor Device Modeling & Simulation and Nano-Electronics"**

**One-Week Faculty Development Program on "IoT Applications and Automation"**

**One-Week Short-Term Training Programme on "Embedded Systems and IoT Devices"**

## Vision

To contribute in service of humanity and nations development by fulfilling the needs of industry and society through technically enriched and competent professionals with social values, entrepreneurship skill, leadership quality and capability of research in the area of Electronics and Instrumentation/ Electronics and Communication.

## Mission

M1: By offering well balanced curriculum to impart quality technical knowledge.
M2: By providing them facilities for hands on practice and research.
M3: Inculcating Social values, leadership, ethics, self-confidence, entrepreneurship skills and providing platform to explore their creativity and hidden talents.

**Department of Electronics Engineering, Samrat Ashok Technological Institute, Vidisha (M.P.)**

# Programme Outcomes (POs)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **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.
11. **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.
12. **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 Educational Objectives (PEOs)

1. **PEO 1.** To prepare graduates with strong foundation in Engineering, Science and Technology for successful career choice in both public and private sectors in the field of electronics & communication engineering.
2. **PEO 2.** To prepare students to crack various state/national level competitive examinations like GATE, IES etc. and to prepare for higher studies or to become researcher or successful entrepreneurs in life.
3. **PEO 3.** To inculcate a sense of ethics, professionalism and effective communication skills amongst graduates.

## Three-Day Ideation Workshop on "Semiconductor Device Modeling & Simulation and Nano-Electronics"

A three-day Ideation Workshop was jointly organized by the AICTE Idea Lab and the Department of Electronics Engineering from October 11 to 13, 2025.

Focusing on the theme "Semiconductor Device Modeling & Simulation and Nano-Electronics", the workshop featured Dr. Varun Mishra, Assistant Professor, MITS Gwalior, as the expert speaker. Dr. Mishra delivered an insightful session on semiconductor device design, modeling, and simulation, along with recent advancements and research trends in the field of nano-electronics.



The workshop, scheduled from October 11 to 13, 2025, aims to provide participants with hands-on exposure to cutting-edge tools and techniques used in semiconductor and nano-electronics research.

The inaugural session was graced by Dr. Ashutosh Datar, Head, Department of Electronics Engineering and Workshop Convener; Dr. Pankaj Agrawal, Head, Department of Mechanical Engineering and Coordinator, AICTE Idea Lab; Dr. Sweety Jain, Workshop Coordinator; and Prof. Neeraj Dhakad.

Director Dr. Y. K. Jain congratulated the organizing team and emphasized the importance of such academic initiatives in fostering innovation and creativity among students. He remarked, "Workshops like these bridge the gap between theoretical learning and practical application. They inspire students to think innovatively and contribute to India's growing semiconductor ecosystem. I encourage our young minds to take full advantage of such opportunities to shape their future careers."



Dr. Laxmikant Markhedkar, Secretary, Board of Governors (BoG), extended his best wishes for the successful organization of the workshop and appreciated the collaborative efforts of the departments.

Dr. Ashutosh Datar, Head of Electronics Engineering, highlighted that the semiconductor sector will open numerous new avenues for employment and research in the coming years.

Dr. Pankaj Agrawal, Head of Mechanical Engineering, stated that such workshops give a new direction to students' future aspirations and motivate them to explore innovative pathways for professional growth.

## One-Week Short-Term Training Programme on "Embedded Systems and IoT Devices"

The Department of Electronics Engineering, Samrat Ashok Technological Institute (SATI), Vidisha, organized a One-Week Short-Term Training Programme (STTP) on "Embedded Systems and IoT Devices" from 13 October 2025 to 17 October 2025. The programme was sponsored by the Madhya Pradesh Council of Science and Technology (MPCST), Bhopal.



The inaugural session was graced by Dr. Jitendra Parashar, Dean (R&D), SATI, as the Chief Guest, and Dr. Kanak Saxena, HoD, CSE Department as the Special Invited Guest. The event commenced with the lighting of the ceremonial lamp and Saraswati Vandana, symbolizing the pursuit of knowledge and wisdom.

Dr. Ashutosh Datar, Head of the Department and Programme Coordinator, presented an overview of the training programme and highlighted the importance of Embedded Systems and Internet of Things (IoT) technologies in the modern digital era. He emphasized that a deep understanding of these technologies is essential not only for academic advancement but also for fostering innovation in industrial applications.

In her address, Dr. Kanak Saxena, the Special Invited Guest, spoke about the pivotal role of Artificial Intelligence (AI) tools in analyzing and processing data generated through IoT devices. She noted that the integrated use of AI and IoT will open up new frontiers of innovation and technological progress in the near future.

Chief Guest Dr. Jitendra Parashar highlighted the emerging opportunities in India's semiconductor industry and mentioned that, under the Atmanirbhar Bharat (Self-Reliant India) initiative, advancements in semiconductor manufacturing will significantly strengthen IoT connectivity and technological independence.



The event proceedings were conducted by Prof. K. G. Kirar, who also shared details about the upcoming expert sessions and hands-on activities planned during the week-long programme. The session concluded with a vote of thanks delivered by Prof. Bharti Mehra.

The inaugural function witnessed enthusiastic participation from faculty members, research scholars, and students of the institute.

Dr. Laxmikant Markhedkar, Secretary, Board of Governors, and Dr. Y. K. Jain, Director, SATI, extended their best wishes for the successful conduct of the training programme.

## Valedictory Session

The Department successfully concluded the one-week Short-Term Training Programme (STTP) on "Embedded Systems and IoT Devices" on 17 October 2025 in the Smart Classroom of the institute. The training programme was sponsored by the Madhya Pradesh Council of Science and Technology (MPCST), Bhopal.

The valedictory function was presided over by Dr. L. K. Markhedkar, Hon'ble Secretary, MJES & Board of Governors. Dr. Y. K. Jain (Hon'ble Director, SATI), Dr. Alok Jain (Dean, Academics), and Dr. Jetendra Parashar (Dean, Research & Development) graced the occasion as distinguished guests.



In his address, Dr. Markhedkar emphasized that such training programmes should be organized throughout the year to keep faculty members and researchers updated with emerging technologies. He also interacted with the participants, encouraging them to share their insights on the practical applications of IoT across various domains.

Dr. Y. K. Jain, Director, SATI, congratulated the Department of Electronics Engineering for the successful conduct of the programme. He remarked that "Embedded Systems and IoT form the backbone of today's technological world, and smart technologies cannot be imagined without them."

Dr. Ashutosh Datar, Head of the Department and Programme Coordinator, extended a warm welcome to all dignitaries and presented an overview of the objectives and achievements of the training programme. Dr. Alok Jain, Dean (Academics), highlighted the importance of Embedded Systems and IoT technologies, stating that


आयोजन — एम्बेडेड सिस्टम्स एवं आईओटी डिवाइसेज़ पर प्रशिक्षण संपन्न
एंबेडेड सिस्टम्स और आईओटी तकनीकी आज विश्व की रीढ़ है: डॉ. जैन

knowledge in these areas is crucial not only in academia but also for fostering innovation and employment opportunities in industries.

Dr. Jitendra Parashar discussed the growing opportunities in India's semiconductor industry under the "Atmanirbhar Bharat" (Self-Reliant India) initiative and underlined how advancements in semiconductor manufacturing and IoT connectivity are strengthening the nation's technological ecosystem.

The event concluded with the distribution of participation certificates to all attendees by Dr. L. K. Markhedkar and Dr. Y. K. Jain. The valedictory session witnessed enthusiastic participation from faculty members, participants, and students of the institute.

## A One-Week Faculty Development Program on "IoT Applications and Automation"

The Department of Electrical and Electronics Engineering, under the aegis of the AICTE IDEA Lab, Samrat Ashok Technological Institute (SATI), Vidisha, organized a one-week Faculty Development Programme (FDP) from 29 October to 3 November 2025 on "IoT Applications and Automation".



The inaugural session began with the lighting of the ceremonial lamp, symbolizing the pursuit of knowledge and innovation. Further the session continued with welcome address and highlighted the objectives of the FDP — to enhance faculty expertise and foster practical exposure to modern technologies in the domains of Internet of Things (IoT) and Automation.

The Chief Guest of the event, Dr. Y.K. Jain, Director SATI, Vidisha shared insightful remarks on the growing significance of IoT in revolutionizing industries and academic research. The session was also graced by presence of Dr. Alok Jain, Dean Academic, Dr. Pankaj Agarwal, AICTE Idea Lab Coordinator, Dr. Ashutosh Datar, Coconvener & HoD EC Department, Chandra Shekhar Sharma, Convenor & HoD EED, and other Department HoDs Dr. Manoj Datar, Dr. Kanak Saxena, Dr. Rajeev Jain, Dr. Shilpa Datar, Dr. Sunil Joshi and Faculty participants from various engineering institutions.

The program aimed to enhance the technical knowledge and pedagogical skills of faculty members in emerging areas such as Internet of Things (IoT), automation technologies, and their real-world applications. It provided a platform for hands-on learning, expert sessions, and meaningful academic exchange.

The valedictory event was graced by distinguished guests: Dr. Jitendra Parashar – Dean, Research & Development, Dr. Pankaj Agrawal– Coordinator, AICTE IDEA Lab, Dr. Ashutosh Datar, Co-convener & Head, Electronics Engineering, Prof. Chandra Shekhar Sharma Convenor & Head, Electrical Engineering.



Throughout the six days, participants engaged in interactive sessions focused on IoT device integration, sensor networks, automation systems, and their applications in modern engineering. The program concluded with a certificate distribution ceremony and inspiring addresses by Dr. Jitendra Parashar, Dr. Ashutosh Datar, Prof. Chandra Shekhar , and Dr. Pankaj Agrawal. In his address, Dr. Pankaj Agrawal emphasized the importance of IDEA Labs in bridging the gap between theoretical learning and practical innovation. He encouraged faculty members to adopt experiential learning models and integrate IoT-based projects into their curriculum to foster creativity and problem-solving among students.

On this occasion, Director Dr. Y.K. Jain and MJES Secretary Dr. Laxmikant Markhedkar extended their heartfelt congratulations to both departments for organizing a technically enriching and well-coordinated program.

# Exciting Career Opportunities in Electronics Engineering Beyond 2025

As the world embraces rapid technological advancements, the field of electronics engineering continues to flourish, offering diverse and promising career opportunities. After 2024, this discipline will remain pivotal in shaping industries, from consumer electronics to cutting-edge technologies like AI, IoT, and renewable energy systems.

One of the most prominent areas is semiconductor design and manufacturing. With the rise of advanced chip technologies for AI and machine learning applications, engineers skilled in VLSI design, ASIC development, and nanotechnology will find abundant opportunities. Similarly, the automotive sector will see a surge in demand for electronics engineers as electric vehicles (EVs), autonomous driving, and smart transportation systems expand.

The Internet of Things (IoT) will also create significant opportunities. As more devices become interconnected, engineers will work on designing robust sensors, embedded systems, and secure communication protocols. Moreover, renewable energy systems will offer roles in developing efficient solar inverters, wind power electronics, and energy storage systems to support the global shift toward sustainability.

Another dynamic avenue is telecommunications. With the evolution of 6G and advanced satellite networks, the demand for engineers in wireless communication and signal processing will grow exponentially. Additionally, robotics and automation will provide opportunities in designing smart robots for industries ranging from healthcare to manufacturing.

Electronics engineering after 2024 is not just limited to traditional industries but also intersects with emerging domains like quantum computing, biomedical devices, and space technology. With the right skills and a forward-thinking approach, electronics engineers can contribute significantly to these transformative fields while building a rewarding career.
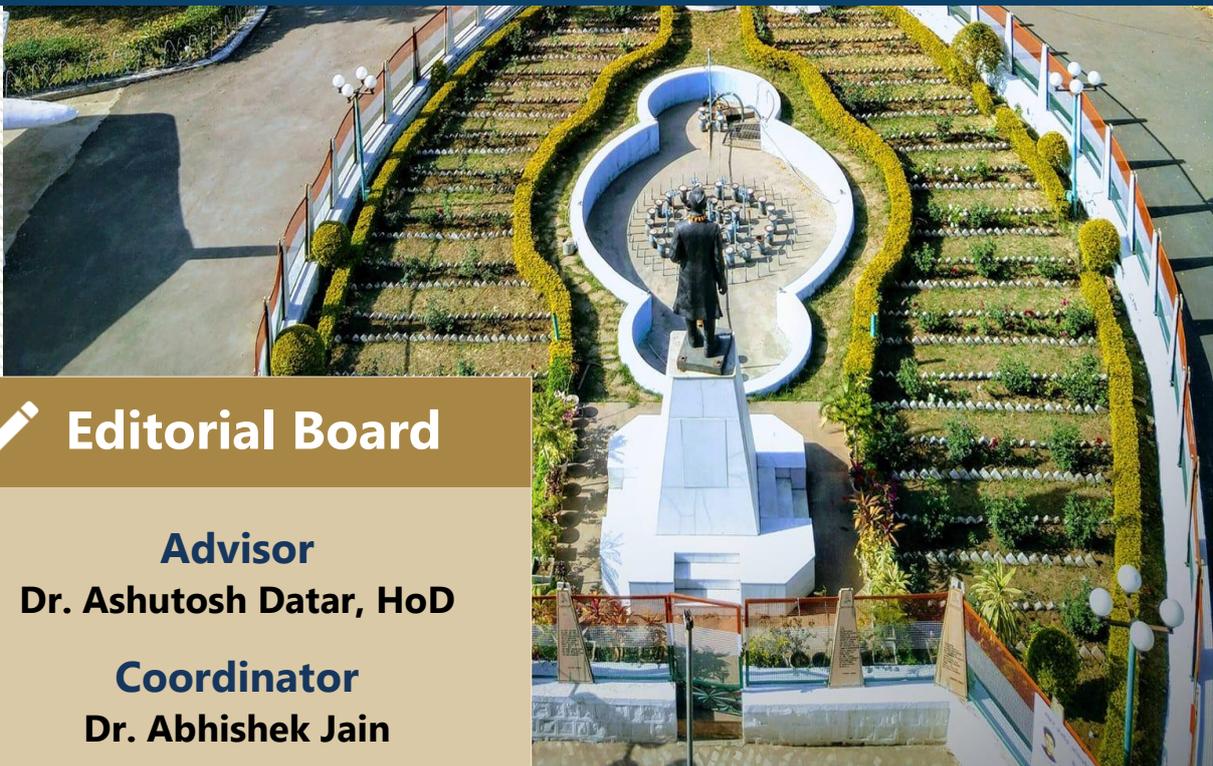
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Articles/achievements for the subsequent editions can be submitted at
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