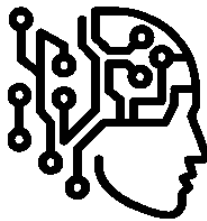


Department of Electronics & Communication Engineering

(Accredited by NBA)

**ELECTRONICS & COMMUNICATION STUDENT'S
ASSOCIATION (ECSA)**

ECSA



Electronics & Communication
Students' Association

ANNUAL REPORT
Academic Year 2025-26

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

(Accredited by NBA)

Preamble

The Department of Electronics & Communication Engineering fosters holistic development by encouraging students to participate in both curricular and extracurricular activities through its dedicated student forum, the Electronics & Communication Student's Association (ECSA). Established on April 16, 2009, ECSA serves as a dynamic platform where students can explore and enhance their skills beyond academics. Every student within the department is a member of the ECSA forum. ECSA provides abundant opportunities for students to discover and showcase their technical, presentation, and communication skills through a variety of events. These include invited talks and technical sessions by experts from academia and industry, workshops, aptitude sessions, GATE training, and more.

ECSA organizes a wide range of extracurricular activities that cater to various interests, promoting creativity, teamwork, and leadership among students. The forum regularly hosts cultural events, sports competitions, and social service initiatives, enabling students to unwind, showcase their talents, and contribute to the community. These activities provide a break from academic rigors and help students develop interpersonal skills, time management, and a sense of responsibility.

The forum also publishes a newsletter periodically, offering students a platform to express and share knowledge, while also providing a comprehensive overview of departmental activities and achievements by both staff and students. Additionally, ECSA honours class toppers and winners in various co-curricular activities with certificates of appreciation recognizing their achievement. Moreover, ECSA encourages student participation in intercollegiate competitions, where they can represent the department and gain exposure to diverse challenges and perspectives. Through ECSA students can pursue their passions and collaborate on innovative projects.

ECSA's commitment to student development extends to organizing leadership programs, personality development workshops, and team-building exercises, all of which equip students with essential life skills. By nurturing a well-rounded personality through these extracurricular activities, ECSA ensures that students are not only academically proficient but also prepared to face the complexities of the professional world with confidence and poise.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

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List of Hands-on Workshops, Technical talks, Competitions, Exposure Visits conducted under Electronics & Communication Student's Association (ECSA)

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Activity-1

Title: Career Guidance Session on “Navigating Career and Startup Ecosystem in Embedded Systems: Insights and Opportunities”

Resource Person: Mr. Vilas Shetty

Senior Product Engineer

Tantragyaan Solutions, Bengaluru

Date: 18/08/2025

About the Resource Person

Mr. Vilas Shetty, an alumnus of the Department of Electronics and Communication Engineering (Batch of 2020), is currently serving as a Senior Product Engineer at Tantragyaan Solutions, Bengaluru. With over four years of professional experience in the embedded systems industry, he specializes in the design and development of embedded and IoT-based products. His expertise includes product architecture design, firmware development, Linux device driver programming, system integration, and product testing. Through his industry experience, he has contributed to the development of innovative embedded solutions catering to emerging technological applications.

About the Event

The session was delivered by Mr. Vilas Shetty, a distinguished alumnus of the department, with the objective of providing students with valuable insights into career prospects and entrepreneurial opportunities in the rapidly evolving field of embedded systems. During the session, the resource person introduced the fundamentals of embedded systems and highlighted their growing significance across diverse sectors such as consumer electronics, automotive systems, healthcare, industrial automation, defense, aerospace, and telecommunications. He emphasized the transformative role of emerging technologies including the Internet of Things (IoT), Artificial Intelligence (AI), 5G communication, and

Industry 4.0, all of which heavily rely on embedded systems for their implementation and operation.



Mr. Vilas Shetty, providing insights to the participants



Participants in the session

Mr. Vilas elaborated on the crucial role of Electronics & Communication Engineers in designing, developing, testing, and optimizing embedded solutions. He discussed the technical competencies required to build a successful career in this domain, including proficiency in digital electronics, microcontrollers, real-time operating systems (RTOS), hardware-software integration, and programming languages such as C and C++. He also familiarized students with widely used design and simulation tools including MATLAB, Keil, and Proteus. The session further provided an overview of leading global organizations engaged in embedded system design and development, such as Intel, Texas Instruments, Qualcomm, Samsung, Bosch, Honeywell, NXP Semiconductors, STMicroelectronics, and Siemens. In addition, the speaker highlighted the increasing contribution of startups in IoT and automation technologies and encouraged students to explore entrepreneurship as a viable career path. The resource person also discussed various career opportunities available in the embedded systems domain, including roles such as Embedded Software Engineer, Hardware Design Engineer, System Architect, Validation and Testing Engineer, and IoT Engineer. He explained the benefits and challenges associated with the profession and emphasized the importance of continuous learning and adaptability in a technology-driven environment.

The session witnessed enthusiastic participation from approximately 226 students of the fifth and seventh semesters along with faculty members. The interactive discussion enabled

students to gain a comprehensive understanding of industry expectations, emerging trends, and future opportunities in embedded systems and related technologies.

Key Outcomes of the Event

- Enhanced awareness of embedded systems and their applications across various industries.
- Improved understanding of career opportunities available in the fields of embedded systems, IoT, and automation.
- Exposure to emerging technologies such as Artificial Intelligence, Industry 4.0, 5G, and connected systems.
- Understanding of the technical skills, tools, and programming languages required for successful careers in embedded system design and development.
- Insights into entrepreneurship opportunities and startup ecosystems in the embedded technology sector.
- Familiarization with leading multinational companies and their contributions to embedded system innovations.
- Motivation among students to pursue higher learning, skill development, and industry-oriented career pathways in embedded technologies.

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Activity - 2

Title: Hands-on Training: “From Ideation to Silicon: A Hands-on Custom IC Design with Cadence”

Resource Person: Mr. Rajendra P

Field Application Engineer

Entuple Technologies Pvt. Ltd, Bengaluru

Date : 01/09/2025 - 05/09/2025

About the Resource Person

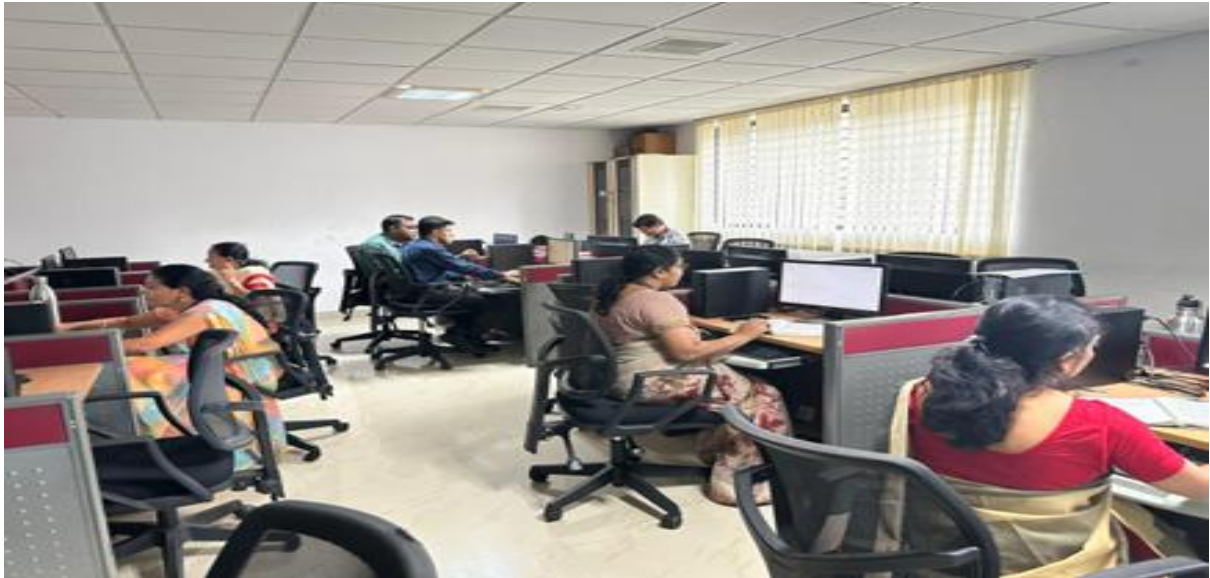
Mr. Rajendra P is a Field Application Engineer at Entuple Technologies Pvt. Ltd, a leading technology solutions provider specializing in VLSI design, embedded systems, and industry-oriented engineering solutions. With extensive expertise in semiconductor design and Cadence EDA tools, he has been actively involved in training students, researchers, and industry professionals in advanced VLSI design methodologies. His areas of expertise include custom IC design, semiconductor device modeling, analog and mixed-signal circuit design, RTL design, physical implementation, verification, and industry-standard design flows. Through his technical proficiency and practical industry experience, he has contributed significantly to bridging the gap between academic learning and industrial practices in VLSI design.

About the Event

The Department of Electronics & Communication Engineering, in association with MITE-IQAC, organized a five-day hands-on training programme titled “From Ideation to Silicon: A Hands-on Custom IC Design with Cadence” from 1st to 5th September 2025. The programme was conducted by Mr. Rajendra P, Field Application Engineer at Entuple Technologies Pvt. Ltd., with the objective of providing students and faculty members with practical exposure to industry-standard VLSI design methodologies and Cadence design tools.

The training commenced with an introduction to the Full Custom IC Design Flow, where participants were introduced to Cadence Virtuoso tools, MOSFET characterization, schematic capture, symbol creation, testbench development, and CMOS inverter simulation

using Spectre. The sessions provided participants with a strong foundation in custom IC design principles and simulation methodologies.



Participants



Session from resource person

On the second day, participants gained hands-on experience in layout design and verification using Virtuoso Layout Editor. The training covered Design Rule Check (DRC), Layout Versus Schematic (LVS) verification, parasitic extraction using Quantus, post-layout simulations, and GDSII file generation, thereby exposing participants to the complete full-custom design cycle.

The third day focused on the Semi-Custom IC Design Flow using a counter circuit as a case study. Participants explored RTL design, functional verification, synthesis using Cadence Genus, and physical implementation using Innovus. The session also included floorplanning, power planning, clock tree synthesis, routing, timing analysis, power analysis, and final GDSII generation.

The fourth day emphasized Analog and Mixed-Signal (AMS) Design Flow. Participants designed digital and analog circuits, including logic gates and amplifiers, and performed schematic capture, symbol generation, simulation, and performance evaluation. Concepts such as current mirrors, amplifier characteristics, and analog circuit design methodologies were discussed in detail.

The final day concentrated on analog layout design and verification. Participants designed and verified the layout of a common-source amplifier, performed DRC and LVS checks, carried out parasitic extraction and post-layout simulations, and generated the final GDSII files. The programme concluded with an interactive discussion session and certificate distribution. Throughout the five-day training programme, participants were actively engaged in practical exercises that enabled them to experience the complete journey from circuit ideation to silicon implementation.

The programme successfully bridged the gap between academic concepts and industrial VLSI design practices by providing comprehensive exposure to custom, semi-custom, and analog/mixed-signal IC design methodologies using industry-standard Cadence tools.

Key Outcomes of the Event

- Acquired hands-on experience in industry-standard Cadence EDA tools used for VLSI design and verification.
- Developed practical knowledge of full-custom, semi-custom, and analog/mixed-signal IC design methodologies.
- Gained expertise in schematic capture, simulation, layout design, DRC, LVS verification, and parasitic extraction techniques.
- Understood the complete semiconductor design flow from RTL design and synthesis to physical implementation and GDSII generation.
- Enhanced knowledge of analog circuit design concepts, including amplifiers, current mirrors, and mixed-signal systems.
- Strengthened practical skills required for careers and research in VLSI, semiconductor technology, and integrated circuit design.
- Bridged the gap between theoretical learning and real-world semiconductor industry practices through extensive hands-on training.

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MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(A Unit of Rajalaxmi Education Trust®, Mangalore)
Autonomous Institute affiliated to VTU, Belagavi, Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade & ISO 9001:2015 Certified Institution

Activity-3

Title: Hands-on Workshop: “AI-Driven Embedded Hardware Design: A Launch Pad for Innovation and Tech Entrepreneurship”

Resource Person: Mr. Vaibhav Sugandhi

Founder & CEO Eartkey Innovation Pvt Ltd Hubballi

Date : 10/09/2025 & 11/09/2025

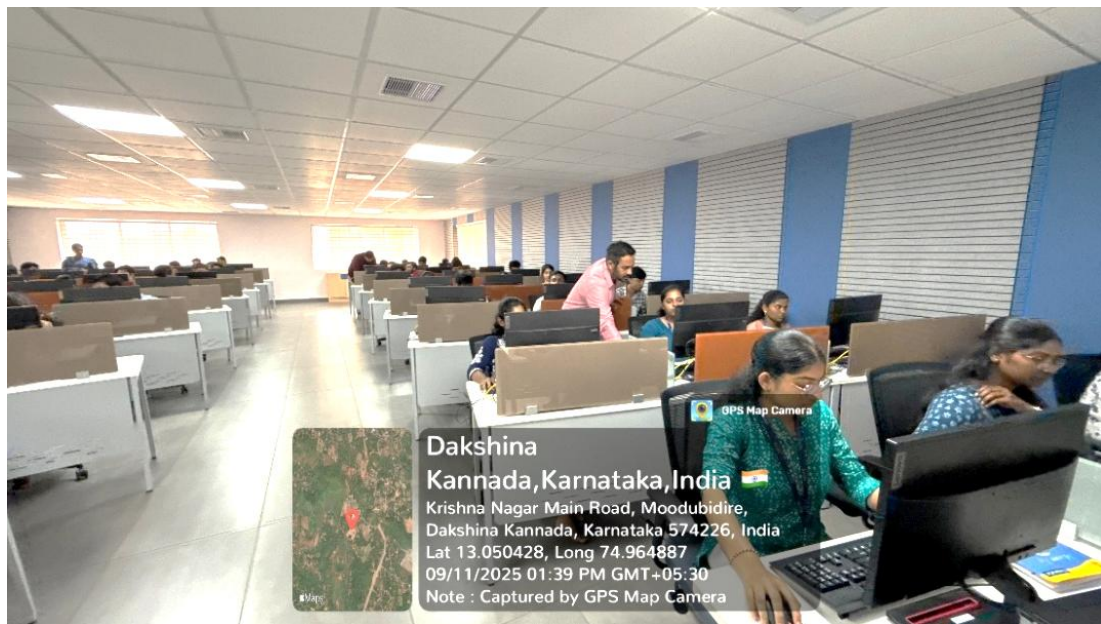
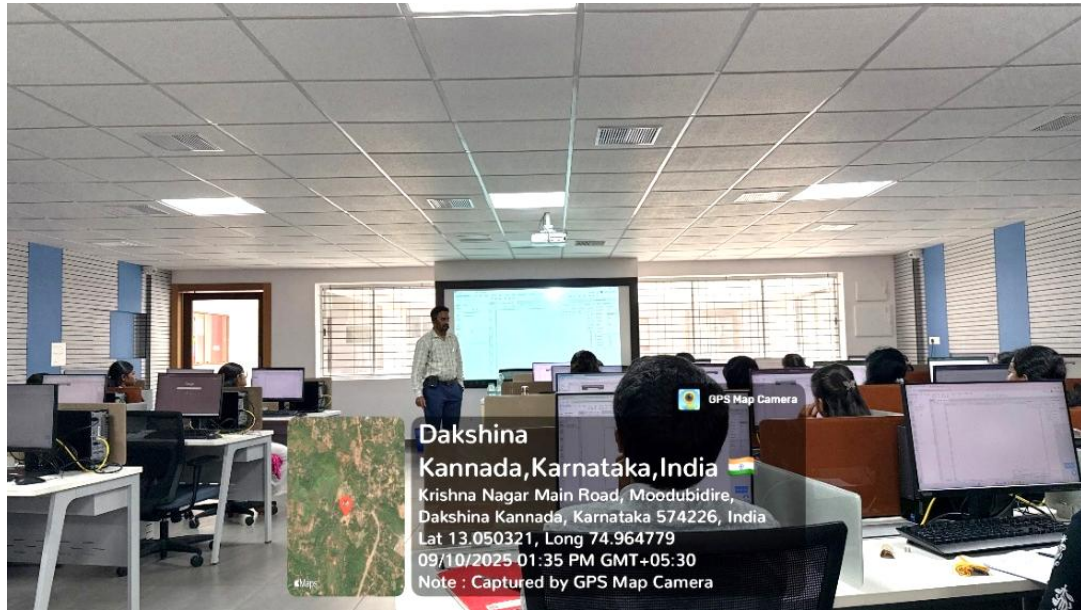
About the Resource Person

Mr. Vaibhav Sugandhi is the Founder and CEO of Eartkey Innovation Pvt. Ltd. and Co-creator at Linked Frequency. He is also associated with IIIT Dharwad as a Project Associate, contributing to research and innovation in embedded systems and electronics product development. With extensive experience in Electronics System Design and Manufacturing (ESDM), PCB design, embedded hardware development, and technology entrepreneurship, he actively mentors students and innovators in transforming ideas into market-ready products. His expertise spans embedded hardware design, AI-enabled Electronic Design Automation (EDA), product prototyping, and startup development, making him a distinguished professional in the field of electronics innovation and entrepreneurship.

About the Event

The workshop was designed to bridge the gap between academic learning and real-world electronics innovation by providing participants with practical exposure to embedded hardware design, PCB development, Artificial Intelligence-assisted design methodologies, and entrepreneurial opportunities in the Electronics System Design and Manufacturing (ESDM) sector.

The workshop was inaugurated by Dr. Vinayambika S. Bhat, Head of the Department of Electronics and Communication Engineering, in the presence of the resource person and event coordinators. The inaugural session highlighted the growing importance of Artificial Intelligence in transforming electronic product design and development processes.



Session from the resource person

The first day of the workshop focused on the fundamentals of Electronics System Design and Manufacturing (ESDM) and embedded hardware development. The resource person introduced participants to PCB design concepts, layout principles, design rules, and industry-standard practices. An insightful session on the integration of Artificial Intelligence and Machine Learning in hardware design demonstrated how AI-powered Electronic Design Automation (EDA) tools facilitate design optimization, fault detection, automation, and

improved design efficiency. Participants gained a deeper understanding of how emerging technologies are revolutionizing modern hardware development workflows.

The second day concentrated on practical learning and entrepreneurial opportunities within the electronics sector. Participants received hands-on training in PCB design using AI-enabled EDA tools and were guided through each stage of the design process. The resource person provided one-to-one mentoring and query resolution sessions, enabling students to gain confidence in designing and validating embedded hardware systems. The workshop also featured 3D visualization of PCB designs and detailed discussions on fabrication processes, helping participants understand the complete product development lifecycle from concept generation to final implementation. In addition to technical training, the workshop explored emerging career opportunities and startup prospects in the ESDM domain. The resource person encouraged participants to leverage technological innovation, research, and entrepreneurship to address real-world challenges. Through interactive discussions and practical demonstrations, the workshop successfully connected theoretical concepts with industrial applications and inspired students to pursue innovation-driven careers in embedded systems and hardware design. The programme concluded with a feedback session, felicitation of the resource person, and closing remarks highlighting the key learning's from the workshop.

Key Outcomes of the Event

- Developed a comprehensive understanding of embedded hardware design and Electronics System Design and Manufacturing (ESDM) concepts.
- Acquired practical knowledge of PCB design principles, layout techniques, and industry-standard design practices.
- Gained exposure to Artificial Intelligence and Machine Learning applications in Electronic Design Automation (EDA) tools.
- Enhanced skills in using AI-powered EDA tools for real-time hardware design, validation, and optimization.

- Understood the complete embedded hardware product development cycle from concept generation to fabrication.
- Improved problem-solving abilities through hands-on design exercises and personalized technical mentoring.
- Explored career opportunities, research avenues, and entrepreneurial prospects in the rapidly growing ESDM sector.
- Fostered innovation, creativity, and industry-oriented thinking among participants through practical learning experiences.

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Activity – 4

Title : Hands-on Workshop : “From Ideas to Impact: Project Planning, Funding, and Ethical Practices”

Resource Person : Dr. Sunil C K, Assistant Professor, CSE Department, Indian Institute of Information Technology, Dharwad.

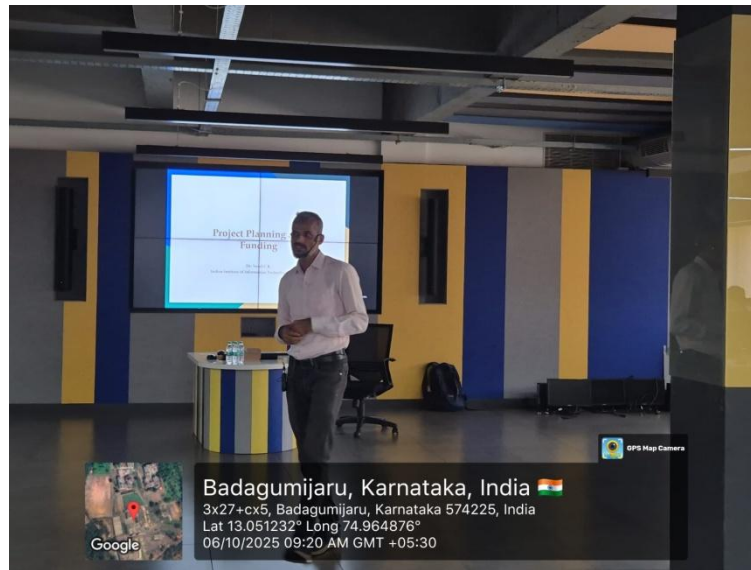
Date : 06/10/2025

About the Resource Person

Dr. Sunil C K is an Assistant Professor in the Department of Computer Science and Engineering at the Indian Institute of Information Technology (IIIT), Dharwad. He holds a Ph.D. from NITK Surathkal and possesses over ten years of academic and research experience. His areas of expertise include Artificial Intelligence, Deep Learning, Computer Vision, and their applications in domains such as agriculture and cybersecurity. In addition to his research contributions, Dr. Sunil actively conducts workshops and awareness programmes on professional ethics, engineering practices, and innovation management, helping students understand the importance of responsible engineering and societal impact.

About the Event

The session was conducted with the objective of equipping students with the knowledge and skills required to transform innovative ideas into successful engineering projects through effective planning, resource management, funding acquisition, and ethical practices. The session commenced with an introduction to the fundamentals of project management. Dr. Sunil explained the key parameters that govern successful project execution, namely scope, time, cost, and quality. He elaborated on the various phases of project development, including initiation, planning, execution, monitoring, and closure. The discussion highlighted the significance of systematic planning in converting academic concepts into practical engineering solutions and emphasized the role of project management skills in enhancing employability and professional competence.



Dr. Sunil delivering session about project planning and funding

A major focus of the programme was project funding and financial planning. The resource person guided students on identifying project requirements, estimating costs, preparing project budgets, and effectively utilizing available resources. He introduced participants to various funding opportunities available for student innovators, including schemes offered by KSCST, IEEE, AICTE SPICES, MODROB, and Institution Innovation Council (IIC). Practical insights were also provided on proposal writing, identifying sponsors, meeting funding deadlines, and maintaining proper documentation for successful project execution.

The final session addressed professional ethics and responsible engineering practices. Dr. Sunil discussed ethical standards prescribed by professional bodies such as IEEE and AICTE, covering topics including integrity, teamwork, plagiarism, data fabrication, and responsible conduct in research and development activities. Through real-world case studies and scenario-based discussions, students were encouraged to critically analyze ethical dilemmas and make informed decisions while working on engineering projects and research activities.

The workshop witnessed active participation from 125 students. The interactive sessions enabled participants to gain a comprehensive understanding of project planning, funding mechanisms, and ethical responsibilities, thereby motivating them to develop innovative projects that address societal needs while adhering to professional standards and best practices.

Key Outcomes of the Event

- Developed a clear understanding of the principles and phases of project management, including planning, execution, monitoring, and closure.
- Acquired knowledge of project budgeting, resource allocation, and financial planning techniques for engineering projects.
- Gained awareness of various funding opportunities available through KSCST, IEEE, AICTE, IIC, and other innovation-supporting organizations.
- Learned effective proposal writing strategies and documentation practices required for securing project funding.
- Enhanced understanding of professional ethics, integrity, and responsible conduct in engineering and research activities.
- Recognized the importance of teamwork, accountability, and ethical decision-making in project execution.
- Developed the ability to transform innovative ideas into impactful and socially relevant engineering solutions.
- Motivated students to pursue innovation, research, and entrepreneurship while adhering to professional and ethical standards.

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Activity – 5

Title : **Technical Exposure visit**
 Centre for System Design (CSD) NITK Surathkal

Date : **07/10/2025 & 9/10/2025**

About the Centre for System Design

The Centre for System Design (CSD) at National Institute of Technology Karnataka (NITK), Surathkal, is a multidisciplinary research and innovation hub that promotes collaboration between academia and industry to address real-world technological challenges. The centre focuses on research domains such as smart agriculture, environmental monitoring, forestry, conservation, electric mobility, remote sensing, and unmanned aerial systems. By leveraging advanced technologies including drones, UAVs, GIS, LIDAR, and data analytics, CSD develops innovative and sustainable solutions for societal and environmental applications.

The Siemens Centre of Excellence (COE) at NITK Surathkal is a state-of-the-art facility established in collaboration with Siemens Industry Software (India) Pvt. Ltd. and supported by the Ministry of Heavy Industries, Government of India. The centre provides advanced infrastructure for training, research, and innovation in Industry 4.0 technologies. Equipped with laboratories dedicated to Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM), Product Lifecycle Management (PLM), Mechatronics, Robotics, Industrial Automation, and Internet of Things (IoT), the COE plays a vital role in bridging the gap between academic learning and industrial practice.

About the Visit

The Department of Electronics & Communication Engineering organized a Technical Exposure Visit for fifth-semester students to the Centre for System Design (CSD) and Siemens Centre of Excellence (COE) at NITK Surathkal. The visit was conducted on 07 October 2025 for EC1 students and on 09 October 2025 for EC2 students with the objective

of exposing students to emerging technologies in system design, electric mobility, drone technology, virtual laboratories, GIS applications, and industrial automation.

The visit commenced at the Centre for System Design, where students were introduced to the centre's vision, ongoing research activities, and multidisciplinary projects. The participants attended an interactive demonstration of the Virtual Laboratory platform, which enables remote access to real-world experimental environments and enhances experiential learning opportunities. Students gained firsthand exposure to modern educational technologies and remote experimentation methodologies.



Mr. Ashray, Junior Research Fellow, presented NITK's carbon-neutral EV projects

The students subsequently visited the Electric Vehicle Laboratory, where they were introduced to NITK's carbon-neutral mobility initiatives. The researchers demonstrated various electric vehicle prototypes, including the Vidhyuth series of electric scooters developed for campus transportation, wildlife conservation, and waste-to-energy applications. The session provided valuable insights into battery technologies, motor controllers, vehicle prototyping, and sustainable transportation systems.

A major highlight of the visit was the Remote Sensing and GIS Laboratory, where students learned about drone-based mapping and geospatial analysis. Demonstrations showcased the

use of GPS-enabled drones, multispectral imaging, thermal sensors, and LIDAR technologies for applications such as crop health monitoring, environmental assessment, land-use analysis, flood mapping, and water resource management. The students gained an understanding of how advanced sensing technologies are used to solve practical environmental and societal challenges.



Mr. Ashutosh Prabhu, Junior Research Fellow, explained drone configurations

The participants were also introduced to unmanned aerial vehicle technologies, flight controllers, BLDC motors, sonar sensors, GPS modules, and drone configurations. Researchers explained the principles governing drone flight, including the application of Bernoulli's theorem, and discussed the design considerations involved in developing UAV systems for various applications. Students further explored ongoing research related to switched reluctance motors and their potential use in future electric vehicles.

During the second phase of the visit, students explored the Siemens Centre of Excellence, where they were exposed to advanced industrial automation and mechatronics systems. Demonstrations of Human Machine Interface (HMI), Programmable Logic Controller (PLC), and Supervisory Control and Data Acquisition (SCADA) systems enabled students to understand the functioning of modern industrial control systems. The visit also included demonstrations of automated sorting and material handling systems in the Mechatronics Laboratory, highlighting practical applications of automation in manufacturing environments. Students additionally visited the Urja Solar Power Station and gained insights into renewable energy technologies and sustainable power generation practices.



Mr.VigneshV.Kini, Mechatronics Lab In-charge, explained about automation

The technical exposure visit provided an excellent platform for students to interact with researchers, observe live projects, and understand the practical implementation of advanced engineering concepts. The visit significantly enhanced their awareness of emerging technologies, research opportunities, and industry-oriented applications while motivating them to pursue innovation, higher studies, internships, and research activities in cutting-edge domains.

Key Learning Outcomes

- Gained exposure to multidisciplinary research activities conducted at the Centre for System Design, NITK Surathkal.
- Developed an understanding of electric vehicle technologies, sustainable mobility solutions, and carbon-neutral transportation initiatives.
- Acquired knowledge of drone technologies, UAV systems, flight principles, and their real-world applications.
- Learned the fundamentals of Remote Sensing, GIS, LIDAR, multispectral imaging, and geospatial data analysis.
- Understood the role of drones and advanced sensing technologies in agriculture, environmental monitoring, flood mapping, and resource management.
- Gained practical insights into Industrial Automation technologies, including PLC, HMI, and SCADA systems.
- Explored applications of mechatronics, robotics, and automated material handling systems in modern industries.
- Enhanced awareness of Industry 4.0 technologies, smart manufacturing, and digital engineering practices.
- Understood the significance of renewable energy systems and sustainable technological development.
- Developed motivation to pursue research, internships, innovation projects, and higher studies in emerging technology domains.

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Activity – 6

Title : ECSA Inauguration 2025

Chief Guest: Mr. Jayaraj Pergade
Director, Mayonix Innovations Mangalore

Date : 08/10/2025

About the Chief Guest

Mr. Jayaraj Pergade is the Director of Mayonix Innovations, Mangalore and a distinguished industry professional with extensive experience in technology innovation, product development, and entrepreneurship. Through his leadership and industry engagement, he has been actively involved in fostering innovation-driven solutions and mentoring aspiring engineers and entrepreneurs. His expertise spans technology management, innovation practices, startup ecosystems, and industry-oriented engineering solutions. As a mentor and thought leader, he continuously encourages young engineers to develop creativity, problem-solving abilities, and entrepreneurial mindsets to address real-world challenges.

About the Event

The Electronics & Communication Student's Association (ECSA) for the Academic Year 2025–26 was inaugurated on 08 October 2025 at Auditorium-4, marking the commencement of a new year of technical, professional, and student-driven activities. The programme was graced by Mr. Jayaraj Pergade, Director, Mayonix Innovations, as the Chief Guest, while Dr. Prashanth C. M., Principal, MITE, presided over the function.

The inaugural ceremony commenced with an invocation song, followed by the formal welcome of dignitaries, faculty members, and students. The programme included the ceremonial lighting of the lamp, symbolizing the pursuit of knowledge and enlightenment. The event provided an excellent platform to motivate students towards innovation, leadership, technical excellence, and professional development.

In her address, Dr. Vinayambika S. Bhat highlighted the role of ECSA in fostering technical competence, innovation, leadership qualities, and collaborative learning among students. She emphasized the importance of student-driven initiatives in enhancing experiential learning and preparing students for future professional challenges.



Inauguration of ECSA 2025-26 Activities by Chief Guest

The Chief Guest delivered an inspiring talk titled “Shaping Ideas Beyond Academics: Pathways and Practices for Future Engineering.” He emphasized the importance of creativity, adaptability, innovation, and entrepreneurial thinking in modern engineering practice. Drawing from his professional experiences, he encouraged students to move beyond conventional academic learning and cultivate problem-solving skills, critical thinking abilities, and a passion for innovation.

A significant highlight of the programme was the release of the department’s Annual Bulletin “Connect Chip” and the Biannual Newsletter “Signal hub”, showcasing the academic, technical, research, and co-curricular achievements of students and faculty members. The publications reflected the vibrant culture of innovation and continuous learning within the department.

The event concluded with an interactive session that enabled students to engage directly with the speaker, gain valuable career insights, and understand emerging industry expectations.

The inauguration successfully established a strong foundation for the various technical, professional, and leadership activities planned under ECSA during the academic year.

Key Outcomes of the Event

- Officially launched the activities of the Electronics and Communication Students' Association (ECSA) for the Academic Year 2025–26.
- Motivated students to think creatively and adopt innovation-driven approaches to engineering problem-solving.
- Enhanced awareness of industry expectations, emerging technological trends, and future career opportunities.
- Encouraged students to develop leadership, teamwork, communication, and professional skills through active participation in association activities.
- Provided valuable insights into entrepreneurship, startup ecosystems, and innovation practices from an experienced industry leader.
- Inspired students to bridge the gap between academic learning and real-world engineering applications.

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Activity – 7

Title : Technical talk : “Shaping Ideas Beyond Academics: Pathways and Practices for Future Engineering”

Resource Person : Mr. Jayaraj Pergade
Director, Mayonix Innovations Mangalore

Date : 08/10/2025

About the Resource Person

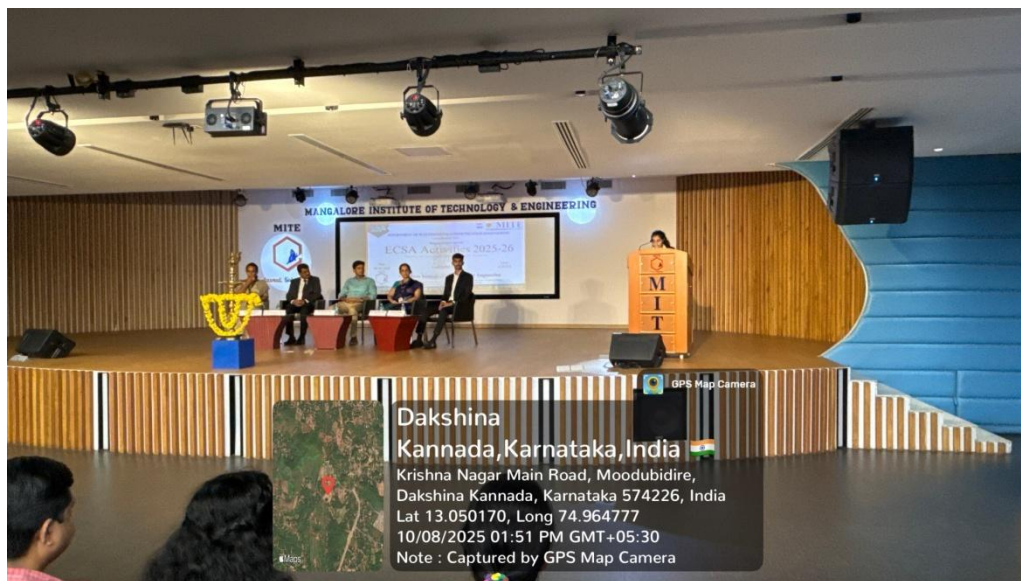
Mr. Jayaraj Pergade is the Director of Mayonix Innovations and a seasoned technology professional with extensive experience in innovation, product development, and entrepreneurship. Through his leadership and industry engagement, he has played a significant role in fostering technology-driven solutions and mentoring aspiring engineers. His expertise encompasses innovation management, startup development, industry-oriented engineering practices, and technology commercialization. As a passionate advocate of experiential learning, he actively encourages students to embrace creativity, adaptability, and problem-solving skills to succeed in the rapidly evolving engineering landscape.

About the Event

An invited talk on “Shaping Ideas Beyond Academics: Pathways and Practices for Future Engineering” was delivered by Mr. Jayaraj Pergade, Director, Mayonix Innovations, on 08 October 2025. The session aimed to bridge the gap between academic learning and industry expectations while motivating students to develop innovation-oriented thinking and industry-relevant skills essential for successful engineering careers.

The session focused on preparing students for the dynamic technological environment by emphasizing the importance of continuous learning, adaptability, and innovation. Drawing from his entrepreneurial journey and professional experiences, the resource person shared valuable insights into how engineers can transform ideas into impactful technological solutions. Through real-world examples and practical perspectives, he demonstrated the significance of combining technical expertise with creativity and strategic thinking to address modern engineering challenges.

A major highlight of the talk was the discussion on industry expectations and career readiness. Students were encouraged to align their academic learning with current market demands by actively engaging in self-learning, project-based activities, and skill enhancement initiatives. The resource person emphasized that employers increasingly seek engineers who possess strong analytical abilities, teamwork skills, effective communication, and a proactive approach towards learning emerging technologies.



Glimpse of the Event

The session also highlighted the growing importance of innovation ecosystems, startup culture, and entrepreneurship in engineering practice. Students were encouraged to participate in hackathons, innovation challenges, incubation programmes, and startup initiatives to gain practical exposure and develop entrepreneurial confidence. The resource person stressed that innovation often emerges from identifying real-world problems and developing sustainable solutions through collaborative efforts and technological creativity.

An interactive question-and-answer session provided students with an opportunity to discuss emerging domains such as Artificial Intelligence, Internet of Things, Robotics, Embedded Systems, and technology entrepreneurship. The resource person offered practical guidance on building technical portfolios, pursuing research interests, and developing competencies that would enhance career prospects in the future. The engaging interaction enabled participants to gain valuable insights into industry trends and professional growth opportunities.

The session successfully inspired students to think beyond conventional academic boundaries and encouraged them to adopt a multidisciplinary approach towards learning, innovation, and career development. It served as an enriching platform for understanding the evolving demands of the engineering profession and the importance of lifelong learning in achieving professional excellence.

Key Outcomes of the Event

- Enhanced awareness of emerging trends, opportunities, and challenges in the engineering and technology sectors.
- Developed a better understanding of industry expectations and the competencies required for career success.
- Recognized the importance of continuous learning, adaptability, and self-improvement in a rapidly changing technological environment.
- Gained insights into innovation-driven problem solving and practical approaches to engineering challenges.

- Understood the significance of teamwork, communication skills, and collaborative learning in professional environments.
- Acquired knowledge about startup ecosystems, entrepreneurship, incubation centres, and innovation programmes.
- Encouraged participation in hackathons, innovation challenges, research activities, and skill development initiatives.
- Received valuable guidance on building technical portfolios, pursuing emerging technology domains, and preparing for future career opportunities.
- Developed motivation to think creatively, explore multidisciplinary learning, and contribute to technology-driven societal solutions.

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Activity – 8

Title : Hands-on Workshop :“From Idea to Implementation: Skill Development in VLSI Design”

Resource Persons : 1) **Dr. Arjun Sunil Rao**
Assistant Professor,
Manipal Institute of Technology ,Manipal

2) **Dr. Amit Kumar Goyal**
Assistant Professor,
Manipal Institute of Technology ,Manipal

Date : 13/10/2025 & 14/10/2025

About the Resource Persons

Dr. Arjun Sunil Rao is an Assistant Professor in the Department of Electronics and Communication Engineering at Manipal Institute of Technology (MIT), MAHE, Manipal. He obtained his Ph.D. in Fuel Cells and MEMS Fabrication from Visvesvaraya Technological University, with research collaborations at IIT Bombay and TIFR Mumbai. His research interests include VLSI design, MEMS fabrication, fuel cells, nanomaterials, and simulation tools such as COMSOL Multiphysics, LT Spice, and Microwind. He has published several research articles in reputed journals, holds multiple patents, and has delivered numerous expert talks on emerging technologies and innovation-driven engineering practices.

Dr. Amit Kumar Goyal is an Assistant Professor (Senior Scale) at Manipal Institute of Technology, MAHE, Manipal. He earned his Ph.D. from the Academy of Scientific and Innovative Research (AcSIR), India, and has previously served as a faculty member at IIIT Noida and as a Postdoctoral Research Fellow at KAUST, Saudi Arabia. His research expertise includes VLSI Design, Nanophotonics, Photonic Devices, Advanced Sensing Technologies, Micro/Nano-Fabrication, and Smart Healthcare Applications. With more than 80 research publications, multiple patents, and editorial contributions to reputed international journals, he has established himself as a leading researcher in interdisciplinary device engineering and emerging semiconductor technologies.

About the Event

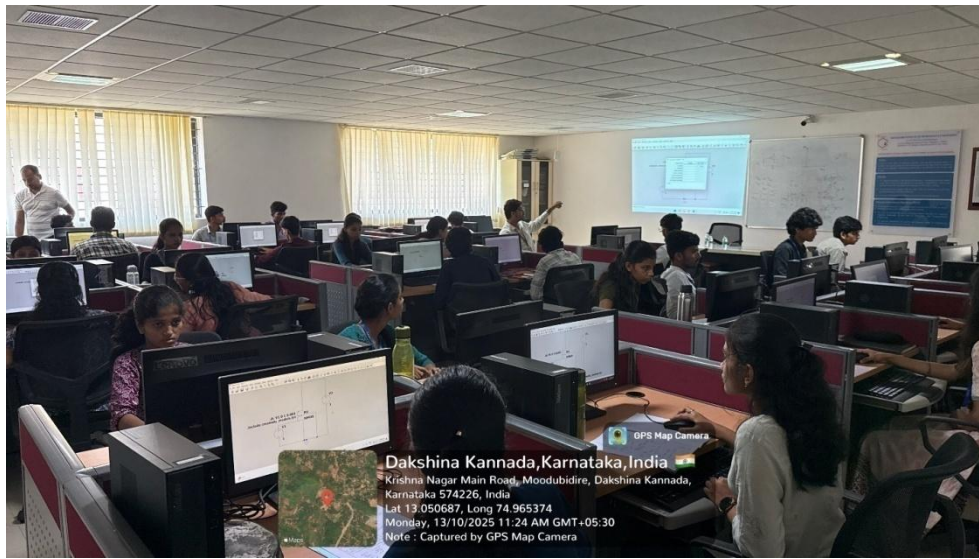
A two-day hands-on workshop titled **“From Idea to Implementation: Skill Development in VLSI Design”** was conducted on 13 and 14 October 2025 with the objective of providing participants with comprehensive exposure to VLSI design methodologies, circuit simulation techniques, multiphysics modeling, and layout design using industry-relevant software tools. The programme combined theoretical concepts with extensive practical sessions, enabling participants to gain valuable experience in modern semiconductor design and simulation workflows.



Dr. Arjun Sunil Rao is conducting session

The workshop commenced with sessions on the fundamentals of Very Large Scale Integration (VLSI) and circuit simulation using LT Spice. Participants were introduced to CMOS technology, transistor-level design concepts, logic gate implementation, timing analysis, and integrated circuit design flow. Through guided hands-on exercises, students designed and simulated electronic circuits such as amplifiers, oscillators, and CMOS logic gates while analyzing important performance parameters including delay, gain, and power consumption. The practical sessions helped participants understand the significance of simulation in validating circuit functionality before physical implementation.

The programme further introduced participants to COMSOL Multiphysics, a powerful simulation platform widely used for modeling complex engineering systems. Sessions focused on the principles of multiphysics simulation, optical filter design, material modeling, boundary condition implementation, and result visualization. Live demonstrations enabled students to explore the interaction of multiple physical domains and understand how simulation tools are employed to optimize device performance and accelerate product development.



Dr. Amit Kumar Goyal is conducting session

The second day concentrated on advanced applications of COMSOL Multiphysics and its role in solving real-world engineering challenges. Participants gained exposure to coupled-physics modeling, meshing techniques, solver configurations, parameter optimization, and simulation-based design methodologies. Through practical examples involving electro-thermal systems and photonic devices, students developed a deeper appreciation for the role of computational modeling in research and innovation.

The workshop concluded with an intensive hands-on session on VLSI layout design using Microwind software. Participants learned the principles of physical layout design, CMOS fabrication considerations, placement and routing strategies, design rule checking (DRC), and layout versus schematic (LVS) verification. By creating and simulating CMOS layouts, students gained practical insights into the relationship between logical circuit design and physical chip implementation. The session effectively bridged the gap between theoretical circuit concepts and real-world semiconductor fabrication processes.

The workshop provided a holistic learning experience by integrating simulation, modeling, design, and implementation aspects of VLSI engineering. Through interactive demonstrations and hands-on exercises, participants developed practical skills that are highly relevant to academic research, semiconductor industries, and advanced technology development. The programme was well received and significantly enhanced students' understanding of modern VLSI design and simulation methodologies.

Key Outcomes of the Event

- Developed a strong foundation in VLSI design concepts, CMOS technology, and integrated circuit design methodologies.
- Acquired practical experience in circuit simulation and analysis using LT Spice.
- Enhanced understanding of transistor-level modeling, logic gate design, timing analysis, and circuit optimization techniques.
- Gained exposure to COMSOL Multiphysics for advanced engineering simulation and device modeling.

- Learned the principles of optical filter design, multiphysics integration, and simulation-based product development.
- Developed proficiency in modeling coupled physical systems and interpreting simulation results for engineering applications.
- Acquired hands-on experience in VLSI layout design using Microwind software.
- Understood fabrication-related considerations including placement, routing, DRC, and LVS verification.
- Bridged the gap between theoretical circuit design and practical semiconductor implementation.
- Strengthened technical competencies required for higher studies, research activities, and careers in VLSI, semiconductor technology, and electronic system design.

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Activity-9

Title : Hands on Workshop: “Embedded Hardware Design for Innovation and Tech Entrepreneurship”

Resource Person: Mr. Vaibhav Sugandhi

Founder & CEO, Eartkey Innovation Pvt.Ltd, Hubballi

Date : 17/11/2025 & 18/11/2025

About the Resource Person

Mr. Vaibhav Sugandhi is the Founder and CEO of Eartkey Innovation Pvt. Ltd., Co-creator at Linked Frequency, and Project Associate at IIIT Dharwad. He is actively involved in Electronics System Design and Manufacturing (ESDM), embedded hardware development, PCB design, product prototyping, and technology entrepreneurship. With extensive experience in transforming innovative ideas into market-ready products, he has been mentoring students, researchers, and aspiring entrepreneurs in the areas of embedded systems, hardware innovation, and start up development. His expertise spans embedded hardware design, AI-assisted Electronic Design Automation (EDA), product engineering, and entrepreneurship, making him a distinguished contributor to innovation-driven electronics development.

About the Event

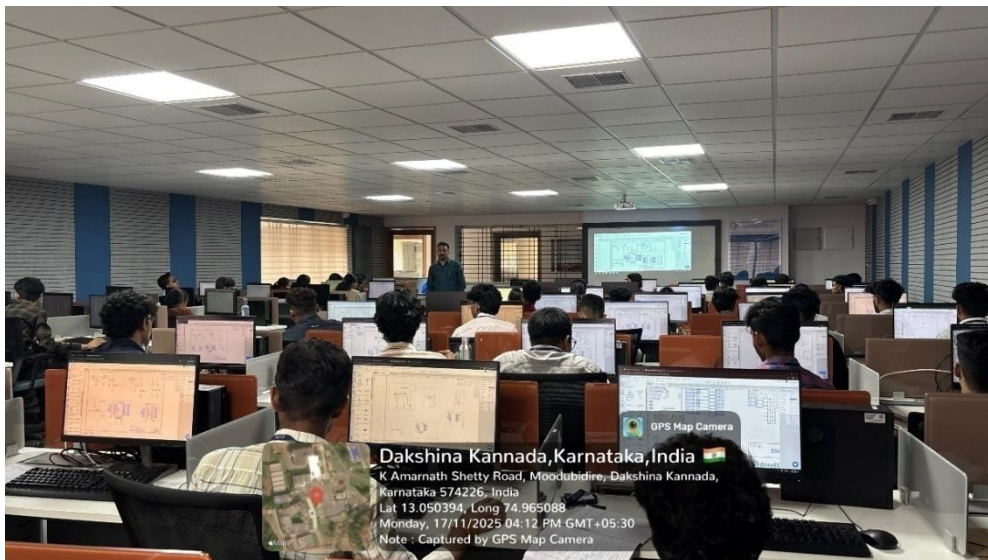
The workshop was conducted on 17 and 18 November 2025 with the objective of providing participants with practical exposure to embedded hardware development, PCB design methodologies, AI-powered EDA tools, and entrepreneurial opportunities in the Electronics System Design and Manufacturing (ESDM) sector. The programme was designed to bridge the gap between academic learning and real-world product development by integrating technical knowledge with innovation-oriented thinking.

The workshop commenced with an introduction to the Electronics System Design and Manufacturing ecosystem, where participants were introduced to the fundamentals of

embedded hardware systems, product development workflows, and emerging trends in electronics innovation. The resource person explained the significance of ESDM in modern technology development and highlighted the growing demand for skilled professionals capable of designing intelligent electronic products.



Mr. Vaibhav Sugandhi is delivering the session



Participants in the session

A major focus of the programme was PCB design and hardware development. Participants gained exposure to PCB layout principles, design rules, component placement strategies, routing techniques, and industry-standard design practices. The sessions provided a comprehensive understanding of the complete embedded hardware design cycle, enabling students to appreciate the various stages involved in transforming an idea into a functional electronic product.

The workshop further explored the integration of Artificial Intelligence and Machine Learning in hardware design. Through interactive discussions and demonstrations, participants learned how AI-powered EDA tools are transforming design automation, error detection, optimization, and product development workflows. The resource person illustrated how intelligent design tools can significantly enhance efficiency, reduce development time, and improve design accuracy in modern electronics engineering.

The second day focused extensively on hands-on learning, where students actively engaged in PCB design activities under the guidance of the resource person. Participants were guided through each stage of the design process, including schematic development, PCB layout creation, and design verification. The session also included 3D visualization of PCB designs, enabling students to better understand physical implementation aspects and manufacturing considerations. Individual mentoring and one-to-one interactions ensured that participants received personalized support in addressing technical challenges and strengthening their understanding of design concepts.

In addition to technical training, the workshop highlighted emerging career opportunities and entrepreneurial prospects within the ESDM sector. Students were encouraged to explore innovation-driven ventures, product development initiatives, and startup ecosystems that leverage embedded technologies to address real-world challenges. The programme successfully combined technical expertise, practical learning, and entrepreneurial awareness, creating a highly engaging and industry-relevant learning experience.

Key Outcomes of the Event

- Developed a comprehensive understanding of embedded hardware design and the Electronics System Design and Manufacturing (ESDM) ecosystem.
- Acquired knowledge of PCB design principles, layout methodologies, routing strategies, and industry-standard design practices.
- Understood the complete hardware product development cycle from concept formulation to product realization.
- Gained exposure to Artificial Intelligence and Machine Learning applications in Electronic Design Automation (EDA) tools.
- Enhanced practical skills through hands-on PCB design exercises and guided implementation activities.
- Learned to utilize modern design tools for automation, optimization, and verification of electronic systems.
- Improved problem-solving abilities through one-to-one mentoring and interactive technical discussions.
- Developed awareness of emerging career opportunities in embedded systems, hardware design, and electronics product development.
- Gained insights into innovation-driven entrepreneurship and startup opportunities within the ESDM sector.
- Strengthened confidence in applying theoretical concepts to real-world engineering and product development challenges.

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Activity – 10

Title :	Hands on Workshop: “Inspiring Innovation in Silicon: Hands-on Session on VLSI Testing and Verification”
Resource Person :	Mr. Midde Venkata Siva Research Scholar, NIT, Calicut, Ad-hoc faculty, Department of Electronics & Communication Engineering, National Institute of Technology Karnataka, Surathkal.
Date :	22/11/2025 & 24/11/2025

About the Resource Person

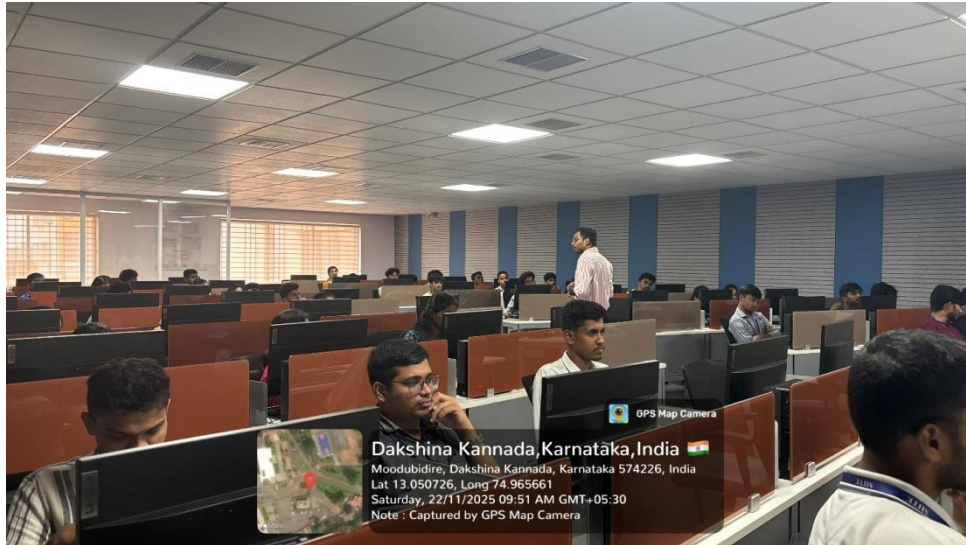
Mr. Midde Venkata Siva is a Research Scholar at the National Institute of Technology (NIT), Calicut, and serves as an Ad-hoc Faculty member in the Department of Electronics and Communication Engineering at NIT Karnataka, Surathkal. He possesses extensive academic and technical expertise in VLSI design, digital system verification, semiconductor technologies, and hardware validation methodologies. His areas of interest include ASIC design, System-on-Chip (SoC) verification, logic testing, digital design workflows, and semiconductor reliability. Through his teaching and research activities, he has been actively involved in mentoring students and promoting practical learning in advanced VLSI design and verification domains.

About the Event

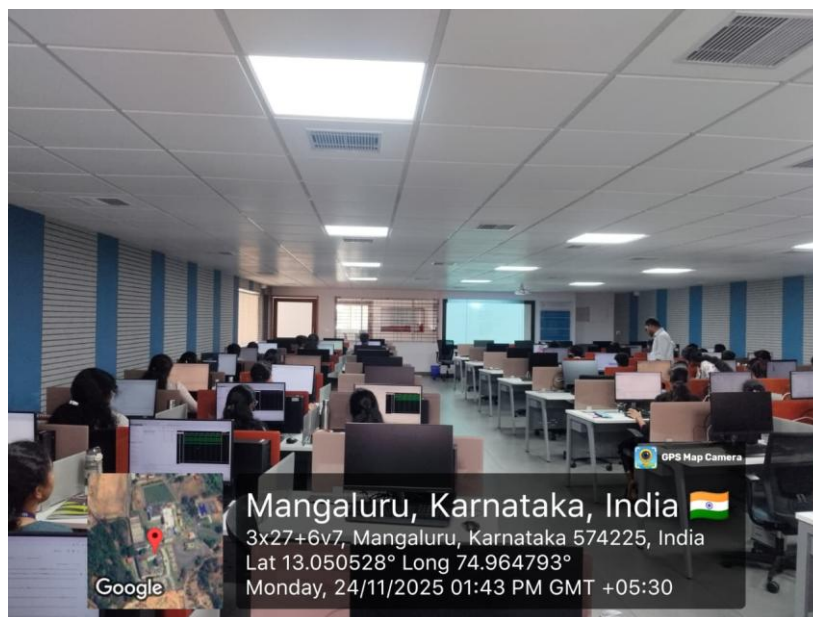
The workshop was conducted on 22 and 24 November 2025 with the objective of providing participants with practical exposure to modern VLSI testing and verification methodologies that play a crucial role in contemporary semiconductor design. The programme was designed to bridge the gap between theoretical learning and industrial practices by introducing students to industry-relevant verification workflows, debugging techniques, and validation strategies used in advanced integrated circuit development.

The workshop commenced with an overview of VLSI testing and verification, highlighting the growing importance of robust validation methodologies in modern ASIC and System-on-Chip (SoC) architectures. Participants were introduced to the significance of pre-silicon and

post-silicon verification processes, the challenges associated with increasing design complexity, and the critical role of verification in ensuring functional correctness, reliability, and performance of integrated circuits. The resource person emphasized that verification constitutes a major portion of the overall IC design effort and is fundamental to successful silicon implementation.



Session from resource person



Participants in the session

The technical sessions covered key concepts such as fault modeling, test pattern generation, scan-based testing, logic verification principles, coverage analysis, stimulus generation, and simulation-based validation techniques. Through detailed discussions and practical demonstrations, participants gained insights into industry-standard verification methodologies and their application in semiconductor product development. The sessions enabled students to understand how verification engineers systematically identify design flaws and ensure the reliability of complex digital systems.

A major highlight of the workshop was the extensive hands-on training component. Participants actively engaged in developing and verifying simple HDL-based designs using Verilog. They learned to create testbenches, perform simulations, analyze waveform outputs, and debug functional errors. Practical exercises involving real debugging scenarios and fault analysis activities enabled students to interpret signal interactions, identify injected faults, and determine failure causes using verification and debugging techniques commonly adopted in the semiconductor industry.

The workshop also provided valuable exposure to industry-standard EDA tools and modern semiconductor verification workflows. Through interactive sessions and guided exercises, participants gained practical experience in applying theoretical concepts to real-world design verification challenges. The programme successfully fostered analytical thinking, debugging skills, and a deeper appreciation for the critical role of testing and verification in ensuring reliable silicon design.

The workshop concluded with an interactive valedictory session where participants reflected on their learning experiences and discussed emerging opportunities in the VLSI industry. The programme served as an enriching platform for students to explore advanced semiconductor technologies while strengthening their readiness for higher studies, research activities, internships, and professional careers in VLSI design and verification.

Key Outcomes of the Event

- Developed a strong understanding of VLSI testing and verification methodologies used in modern semiconductor design.

- Gained knowledge of pre-silicon and post-silicon validation processes and their significance in ensuring reliable chip functionality.
- Acquired practical exposure to fault modeling, test pattern generation, scan-based testing, and logic verification techniques.
- Enhanced understanding of verification workflows, coverage analysis, stimulus generation, and debugging methodologies.
- Developed hands-on experience in Verilog-based HDL design, simulation, and testbench development.
- Learned to analyze waveform outputs, identify design faults, and perform systematic debugging of digital circuits.
- Gained exposure to industry-standard EDA tools and semiconductor verification practices.
- Strengthened analytical thinking, problem-solving abilities, and debugging skills required for VLSI engineering roles.
- Understood the critical role of verification in ensuring quality, reliability, and performance of integrated circuits.
- Increased awareness of career opportunities, higher studies, and research prospects in VLSI design, semiconductor technology, and verification engineering.

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Activity – 11

Title : Hands on Workshop: “Ignite Your Tech Path: From Practice to Breakthrough Interview”

Resource Person : Mr. Harish Neermarga
Managing Director, Accolade Tech Solutions, Mangalore

Date : 25/11/2025 & 26/11/2025

About the Resource Person

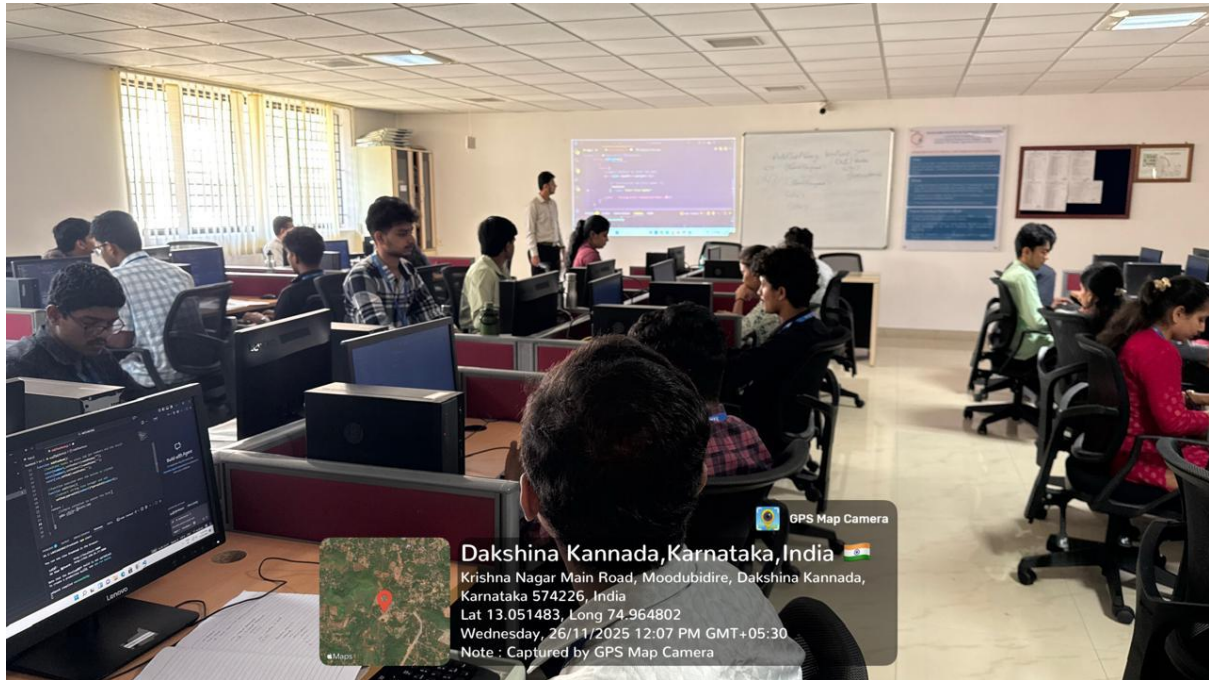
Mr. Harish Neermarga is the Managing Director of Accolade Tech Solutions and a technology professional with over 15 years of experience in the IT industry. He holds a Master of Computer Applications (MCA) in Information Technology from Manipal Institute of Technology. He has extensive expertise in Software Development Life Cycle (SDLC) management, project planning, business analysis, software design, implementation, and support. His key areas of specialization include Artificial Intelligence, Machine Learning, Cloud Computing, Smart TV Applications, Android Mobile Applications, Web Development, and OTT Platforms. He has also successfully managed large-scale live-streaming solutions for television channels and digital media platforms.

About the Event

The workshop was conducted on 25 and 26 November 2025 for third-semester Electronics and Communication Engineering students. The programme was designed to strengthen students’ technical competencies, programming skills, and interview preparedness by providing a blend of conceptual learning, hands-on coding practice, and exposure to modern software development technologies. The workshop aimed to bridge the gap between academic learning and industry expectations by equipping participants with practical problem-solving abilities and real-world development insights.

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Session from resource person



Glimpse of event

The first day of the workshop focused on building a strong foundation in programming using the C language. Participants were introduced to essential programming concepts, logical reasoning techniques, and structured approaches to problem-solving. Through interactive coding exercises, students gained experience in writing efficient programs, understanding algorithmic thinking, and implementing solutions to practical problems. Special emphasis was placed on debugging methodologies, test-case validation, code optimization, and error identification techniques. These activities enabled participants to strengthen their analytical abilities and develop confidence in tackling programming challenges commonly encountered during technical interviews.

The second day concentrated on industry-oriented learning through an introduction to modern technology stack development. Participants explored the integration of front-end and back-end technologies using React and Node.js, gaining insights into the architecture and workflow of contemporary web applications. The sessions covered key concepts such as responsive user interface design, dynamic content management, server-side processing, API integration, and communication between different application layers. Through live demonstrations and practical examples, students developed an understanding of how modern software systems are designed, developed, and deployed in professional environments.

The workshop provided a comprehensive learning platform that combined programming fundamentals with exposure to current industry practices. The interactive nature of the sessions encouraged active participation, critical thinking, and collaborative learning. By integrating coding exercises with practical demonstrations of modern development frameworks, the programme enabled students to appreciate the relevance of technical skills in solving real-world challenges and preparing for future career opportunities.

Overall, the workshop significantly enhanced students' confidence in programming, technical problem-solving, and interview readiness. The exposure to contemporary development tools and methodologies empowered participants to align their technical knowledge with industry requirements and motivated them to pursue continuous skill development in emerging technology domains.

Key Outcomes of the Event

- Strengthened programming fundamentals and logical problem-solving skills using the C programming language.
- Developed proficiency in writing, debugging, testing, and optimizing programs for practical applications.
- Enhanced analytical thinking and structured approaches to solving technical interview problems.
- Improved confidence in tackling coding challenges and interview-oriented programming questions.
- Gained exposure to modern software development technologies and industry-relevant programming practices.
- Acquired an understanding of front-end and back-end integration using React and Node.js.
- Learned the fundamentals of responsive user interface design, API integration, and server-side processing.
- Developed awareness of real-world software development workflows and application architecture.
- Enhanced technical confidence through hands-on coding exercises, demonstrations, and interactive learning activities.
- Bridged the gap between academic knowledge and industry expectations, thereby improving career readiness and employability.

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Activity – 12

Title : Peer-to-Peer Learning Session “Gemini x Electronics: From Circuits to Solutions”

Resource Person : Mr. Karthik Hegde,
Google Student Ambassador
5th Semester Computer Science & Engineering student

Date : 10/12/2025

About the Resource Person

Mr. Karthik Hegde is a fifth-semester student of the Department of Computer Science and Engineering and serves as a Google Student Ambassador. He is actively involved in promoting emerging digital technologies, Artificial Intelligence tools, and innovative learning methodologies among students. With a strong interest in AI-powered applications and technology-driven education, he has been instrumental in creating awareness about the effective and responsible use of advanced digital tools for academic and technical problem-solving. His practical exposure to Google Gemini and related AI technologies enables him to guide students in leveraging these tools to enhance learning efficiency and conceptual understanding.

About the Event

A Peer-to-Peer Learning Session titled “Gemini x Electronics: From Circuits to Solutions” was conducted on 10 December 2025 with the objective of introducing students to Artificial Intelligence-powered learning tools and demonstrating their application in Electronics and Communication Engineering. The programme was organized as part of an initiative to promote collaborative learning, peer knowledge sharing, and the adoption of modern digital technologies for academic excellence.

The session commenced with an introduction to Artificial Intelligence and its growing significance in engineering education. Participants were introduced to Google Gemini, an advanced AI-powered assistant, and its potential applications in supporting learning, problem-solving, and concept clarification. The resource person explained the evolution of

AI tools and highlighted how they can be effectively utilized to complement traditional learning approaches in engineering disciplines.



Student Participation and Interaction

A major focus of the session was the practical application of Google Gemini in solving Electronics and Communication Engineering problems. Through live demonstrations and real-time examples, participants learned how AI tools can assist in understanding both basic and advanced electronic circuits, solving numerical problems step-by-step, clarifying theoretical concepts, generating learning summaries, and addressing circuit-related doubts. Examples related to network analysis, semiconductor devices, and basic electronics were presented to illustrate the effectiveness of AI-assisted learning in technical domains.

The session also emphasized effective prompting techniques for obtaining meaningful and accurate responses from AI systems. Participants were introduced to strategies for framing electronics-related queries, refining prompts, and verifying generated results. Discussions

further highlighted the importance of using AI as a learning aid rather than a substitute for analytical thinking, thereby encouraging students to develop conceptual clarity and independent problem-solving abilities.

Another important aspect of the programme was the discussion on ethical and responsible use of Artificial Intelligence in academics. Students were sensitized to issues related to academic integrity, responsible usage, verification of AI-generated content, and the need for critical evaluation of information obtained through digital tools. The interactive question-and-answer session enabled participants to explore practical use cases, clarify doubts, and gain confidence in integrating AI technologies into their daily learning practices.

The peer-to-peer format created a comfortable and engaging learning environment that encouraged active participation and open discussion. The programme successfully demonstrated how emerging AI technologies can support engineering education by simplifying complex concepts, improving learning efficiency, and fostering technology-enabled problem-solving skills among students.

Key Outcomes of the Event

- Developed awareness of Artificial Intelligence and its growing role in engineering education and technical learning.
- Gained practical knowledge of using Google Gemini for solving Electronics and Communication Engineering problems.
- Learned effective prompting techniques for obtaining accurate and meaningful responses from AI-powered tools.
- Enhanced understanding of electronic circuits, numerical problem-solving, and theoretical concepts through AI-assisted learning.
- Acquired the ability to utilize AI tools for concept clarification, revision, and examination preparation.

- Improved confidence in integrating modern digital technologies into daily academic activities.
- Developed awareness of ethical considerations and responsible use of Artificial Intelligence in educational environments.
- Strengthened analytical thinking by learning to validate and critically evaluate AI-generated responses.
- Promoted collaborative learning, peer interaction, and knowledge sharing among students.
- Encouraged the adoption of innovative learning methodologies aligned with emerging technological trends and industry practices.

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Activity – 13

Title : ZUMBA WORKSHOP

Resource Person : Mr. Karthik
Founder and Director of H2O Studioz, Moodabidri

Date : 13/12/2025

About the Resource Person

Mr. Karthik is the Founder and Director of H2O Studioz, a renowned dance and fitness institute with branches in Bengaluru and Moodbidri. With over a decade of experience in dance training, choreography, and fitness instruction, he has mentored participants across diverse age groups and skill levels. His areas of specialization include Hip-Hop, Bollywood, Contemporary, and Salsa dance forms. He is also a certified fitness professional with qualifications in Zumba B1, Aqua Zumba, Strong by Zumba, and Masala Bhangra. His energetic teaching style, motivational approach, and ability to create an engaging learning environment have made him a sought-after trainer in the field of dance fitness and wellness.

About the Event

A **Zumba Workshop** was conducted on 13 December 2025 with the objective of promoting physical fitness, mental well-being, and a healthy lifestyle among students. Organized by Euphoria in association with ECSA, the workshop provided participants with an opportunity to engage in a dynamic fitness activity that combined dance, exercise, and recreation in an enjoyable and stress-free environment.

The workshop introduced students to Zumba, a globally recognized fitness programme that integrates aerobic exercises with rhythmic dance movements. Designed to encourage physical activity through enjoyable and engaging routines, the programme created a vibrant atmosphere that motivated students to actively participate and embrace healthy lifestyle practices. The open-air venue facilitated free movement and ensured a comfortable environment for all participants.

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The session commenced with a guided warm-up routine aimed at improving flexibility, activating muscles, and preparing participants for the high-energy workout. This was followed by a series of structured Zumba routines synchronized with energetic music. The instructor demonstrated each movement with clarity and encouraged participants to perform the exercises at their own pace, ensuring inclusivity and active participation irrespective of prior experience.



Glimpse of the event

Throughout the programme, participants engaged enthusiastically in a variety of aerobic and dance-based exercises designed to improve cardiovascular fitness, coordination, endurance, and overall physical well-being. The interactive nature of the workshop encouraged students to overcome inhibitions, participate confidently in group activities, and enjoy the collective experience of fitness-oriented recreation. The resource person continuously motivated participants, maintaining high energy levels and fostering a positive learning atmosphere.

The workshop concluded with a cool-down session comprising stretching exercises and wellness guidance on maintaining regular physical activity and a balanced lifestyle. Students appreciated the refreshing and stress-relieving nature of the programme, highlighting its role in enhancing both physical fitness and mental wellness. The event successfully demonstrated how recreational fitness activities can contribute to holistic student development and overall well-being.

Key Outcomes of the Event

- Enhanced awareness among students regarding the importance of physical fitness and healthy lifestyle practices.
- Introduced participants to Zumba as an effective and enjoyable form of aerobic exercise.
- Encouraged regular physical activity through engaging dance-based fitness routines.
- Improved understanding of the relationship between physical fitness, mental well-being, and stress management.
- Promoted active participation in group fitness programmes and recreational wellness activities.
- Enhanced coordination, flexibility, endurance, and overall physical engagement among participants.
- Fostered teamwork, social interaction, and a sense of community through collective participation.



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- Motivated students to adopt healthier lifestyle habits and maintain long-term fitness goals.
- Provided a refreshing and stress-relieving experience that contributed to improved morale and student well-being.
- Reinforced the importance of holistic development by integrating physical wellness with recreational learning experiences.

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Activity-14

Title : Hands on Workshop: “Igniting Minds: A Hands-on Workshop on Signal Analysis in Time and Frequency Domains”

Resource Person : Dr. Aparna P
Associate Professor
Department of ECE, NITK Surathkal

Date : 15/12/2025 & 16/12/2025

About the Resource Person

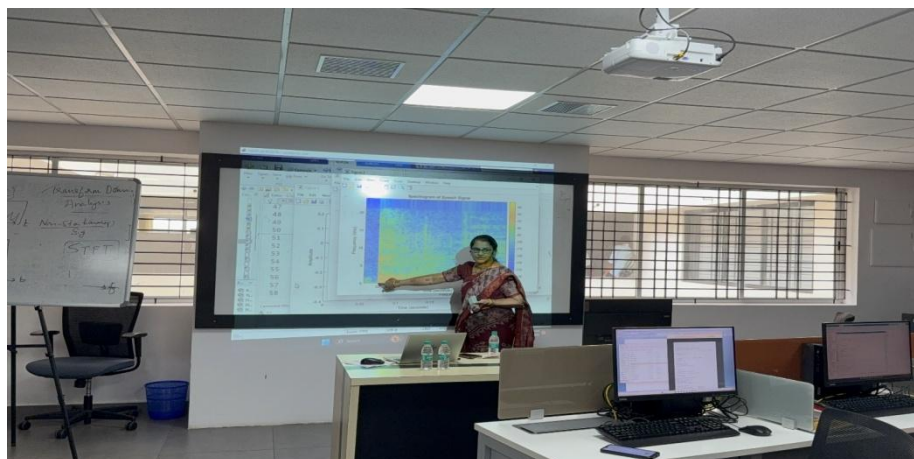
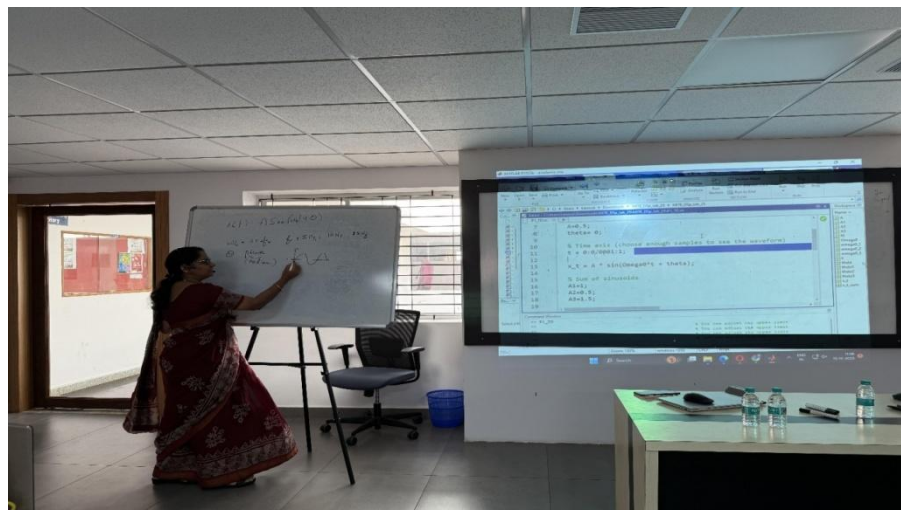
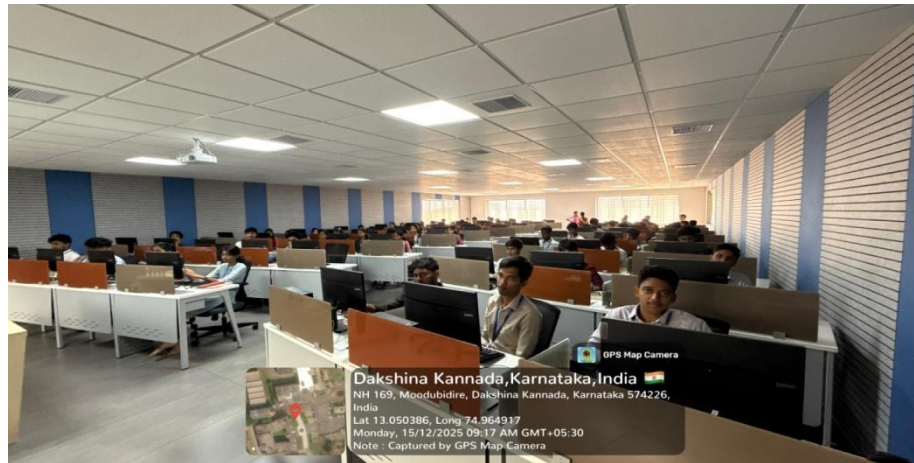
Dr. Aparna P is an Associate Professor in the Department of Electronics and Communication Engineering at the National Institute of Technology Karnataka (NITK), Surathkal. She possesses extensive academic and research expertise in Digital Signal Processing, Audio Signal Processing, Biomedical Signal Analysis, and related interdisciplinary domains. Her research contributions span signal analysis, pattern recognition, and biomedical applications, with a strong focus on bridging theoretical concepts with real-world engineering solutions. Through her teaching, research, and professional engagements, she has actively contributed to advancing knowledge in signal processing and mentoring aspiring engineers and researchers.

About the Event

The workshop was conducted on 15 and 16 December 2025 with the objective of strengthening students’ understanding of signal analysis concepts and their practical applications. The programme was designed to provide participants with a comprehensive exposure to both theoretical foundations and hands-on implementation of signal processing techniques using MATLAB.

The workshop commenced with an introduction to the significance of signal analysis in modern engineering applications. Participants were introduced to the role of signal processing in domains such as audio processing, speech analysis, and biomedical engineering. The resource person explained various classifications of signals and demonstrated how signals are represented, interpreted, and analyzed in different engineering systems. These discussions

enabled students to appreciate the relevance of signal processing concepts in solving real-world problems.



Glimpses of the workshop

A major focus of the programme was the study of fundamental signal processing concepts including sampling, quantization, digitization, reconstruction, and aliasing. Through detailed explanations and practical demonstrations, participants gained insights into how signals are converted from analog to digital form and how design parameters influence signal quality. The workshop highlighted the effects of quantization errors, sampling frequency variations, and reconstruction techniques, providing students with a strong conceptual foundation in digital signal processing.

The hands-on MATLAB sessions formed a key component of the workshop. Participants actively generated and analyzed different signals, studied the impact of varying sampling rates, and observed signal behavior through graphical visualization tools. Real-time audio signals were used to demonstrate concepts such as aliasing, sampling effects, and sound perception. Students also recorded and analyzed their own voice signals, enabling them to investigate waveform characteristics, sampling rates, signal energy, and statistical properties through practical experimentation. The workshop further explored frequency-domain analysis and its importance in understanding signal characteristics that are not readily visible in the time domain. Participants learned how frequency-domain techniques assist in identifying signal components, analyzing noisy signals, and extracting meaningful information from complex datasets. Through demonstrations involving clean and noisy audio signals, students developed a deeper understanding of spectral analysis and frequency-based interpretation of signals. Advanced sessions included spectrogram analysis, visualization of signal energy distributions, and biomedical signal analysis using ECG signals. Participants observed both time-domain and frequency-domain characteristics of biomedical signals and gained insights into how signal processing techniques are applied in healthcare and diagnostic applications. The practical exercises successfully connected classroom theory with contemporary engineering applications, thereby enhancing students' analytical and problem-solving capabilities.

The interactive nature of the workshop, combined with extensive hands-on activities and real-world examples, created an engaging learning environment. The programme significantly strengthened participants' understanding of signal analysis methodologies and inspired greater interest in advanced signal processing, research, and application-oriented learning.

Key Outcomes of the Event

- Developed a strong understanding of signal analysis concepts in both time and frequency domains.
- Acquired practical knowledge of sampling, quantization, digitization, reconstruction, and aliasing phenomena.
- Gained hands-on experience in MATLAB-based signal generation, visualization, and analysis.
- Enhanced understanding of signal quality, quantization errors, and sampling frequency effects.
- Learned techniques for analyzing audio signals, speech signals, and biomedical signals using digital tools.
- Developed proficiency in interpreting waveform characteristics, signal energy, and statistical signal parameters.
- Understood the significance of frequency-domain analysis in identifying hidden signal components and noise characteristics.
- Gained exposure to spectrogram analysis and frequency-based visualization techniques.
- Acquired practical insights into biomedical signal processing through ECG signal analysis.
- Strengthened analytical thinking, problem-solving abilities, and application-oriented understanding of Digital Signal Processing concepts.
- Bridged the gap between theoretical signal processing principles and real-world engineering applications.

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Activity-15

Title : Hands on Workshop: “Innovative Digital System Design: Leveraging FPGA Technology And Nios V For Next-Generation”

Resource Person : Mr. Padmanaban K
Software Enabling and Optimization Engineer
Altera Semiconductor Technology India Pvt Ltd, Bengaluru.

Date : 12/03/2026 & 13/03/2026

About the Resource Person

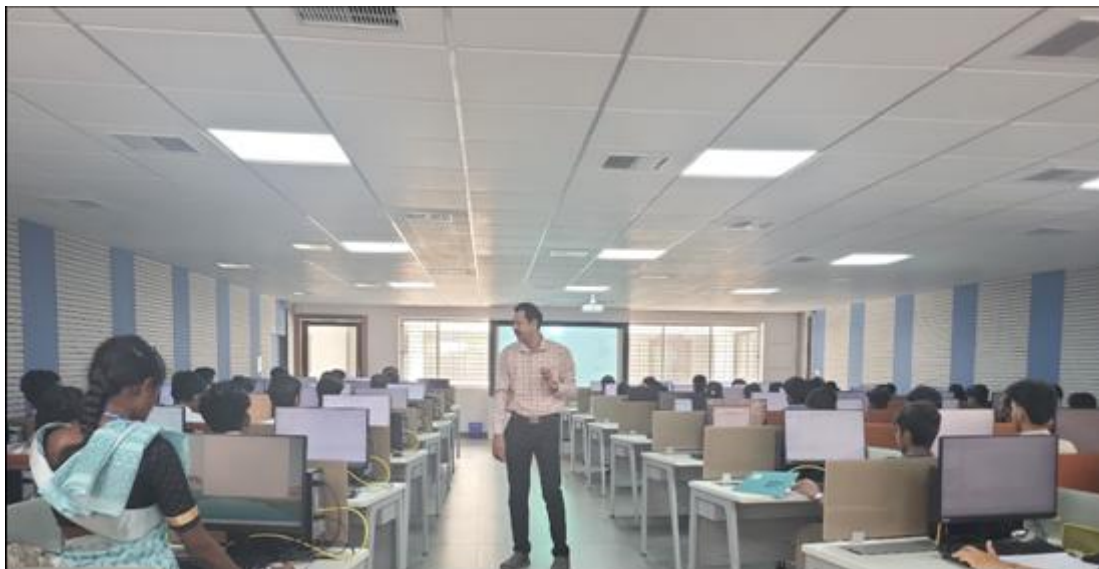
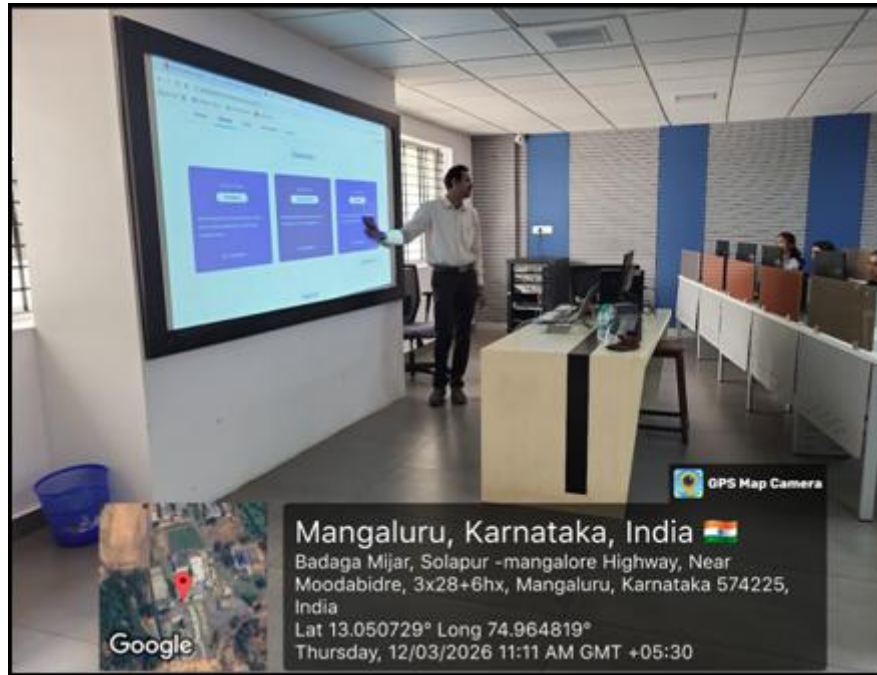
Mr. Padmanaban K is a Software Enabling and Optimization Engineer at Altera Semiconductor Technology India Pvt. Ltd., Bengaluru. He possesses expertise in FPGA-based system design, embedded hardware development, programmable logic technologies, and hardware-software co-design. His professional experience includes working with advanced FPGA development tools, processor-based embedded systems, and optimization techniques for high-performance digital applications. Through his industry engagements, he actively contributes to enabling engineers and students to adopt modern FPGA technologies for innovation-driven system design and development.

About the Event

The workshop was conducted on 12 and 13 March 2026 with the objective of introducing students to advanced programmable logic technologies and modern embedded system design methodologies. The workshop was designed to bridge the gap between academic learning and industry-oriented digital system development through a combination of expert lectures, practical demonstrations, and extensive hands-on laboratory sessions.

The programme commenced with an introduction to Field Programmable Gate Arrays (FPGAs), highlighting their significance in contemporary digital system design. Participants were introduced to the fundamental architecture of FPGAs and explored key components such as Look-Up Tables (LUTs), Adaptive Logic Modules (ALMs), Logic Array Blocks (LABs), memory blocks, and Digital Signal Processing (DSP) blocks. The resource person

explained how these architectural elements contribute to the flexibility, reconfigurability, and high-performance capabilities of FPGA-based systems used in communication, signal processing, and embedded applications.



Mr. Padmanaban K delivering the session

A major focus of the workshop was the FPGA design flow using the Quartus® Prime Design Software. Participants gained practical exposure to project creation, design entry using Hardware Description Languages (HDL), synthesis, pin assignment, place-and-route operations, and device programming. Through guided demonstrations and hands-on exercises, students learned how digital designs are transformed from conceptual descriptions into hardware implementations on FPGA platforms. The practical sessions enabled participants to understand the complete development cycle involved in FPGA-based system design.

The workshop further explored system-level design using Platform Designer, emphasizing the integration of Intellectual Property (IP) cores and the development of complex digital systems. Participants learned techniques for configuring interconnects, integrating reusable IP modules, and generating HDL code for customized hardware solutions. These sessions provided valuable insights into modern system design methodologies used in industry for rapid development and efficient implementation of embedded applications.

The second day focused on the design and implementation of embedded systems using the Nios® V soft-core processor. The resource person demonstrated the processor development workflow, system configuration procedures, and design considerations involved in implementing processor-based systems on FPGA platforms. Through practical laboratory exercises, participants developed a deeper understanding of hardware-software integration and explored the role of embedded processors in modern programmable systems.

An important feature of the workshop was the extensive hands-on support provided to participants. Interactive sessions, one-to-one guidance, and personalized query-solving opportunities enabled students to gain confidence in applying theoretical concepts to practical implementations. The resource person actively engaged with participants throughout the programme, ensuring effective knowledge transfer and enhanced learning outcomes.

The workshop successfully exposed students to emerging FPGA technologies, advanced digital design methodologies, and embedded processor development. By combining theoretical concepts with practical implementation, the programme provided valuable

industry-oriented learning experiences and encouraged students to explore innovation, research, and entrepreneurship opportunities in FPGA-based system design.

Key Outcomes of the Event

- Developed a comprehensive understanding of FPGA architecture and programmable logic technologies.
- Gained knowledge of FPGA components including LUTs, ALMs, LABs, memory blocks, and DSP blocks.
- Acquired hands-on experience with Quartus® Prime Design Software for FPGA design and implementation.
- Learned the complete FPGA development flow, including design entry, synthesis, pin assignment, fitting, and device programming.
- Enhanced understanding of Hardware Description Language (HDL)-based digital system design.
- Gained practical exposure to system-level design using Platform Designer and IP core integration.
- Developed skills in configuring interconnects and generating custom hardware systems using reusable design components.
- Acquired knowledge of Nios® V soft-core processor architecture and embedded system development methodologies.
- Strengthened understanding of hardware-software co-design and FPGA-based embedded processor implementation.
- Improved problem-solving abilities through extensive laboratory exercises and real-time design activities.

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Activity-16

Title : Hands on Workshop : “Engineering Electronics by Design: Prototyping, Interfacing, and Debugging

Resource Person : Mr. Floyd James Sequeira, Lead Electrical Engineer/Developer at Siemens Healthineers, Bengaluru

Date : 06/04/2026 & 07/04/2026

About the Resource Person

Mr. Floyd James Sequeira is a Lead Electrical Engineer/Developer at Siemens Healthineers, Bengaluru, with extensive expertise in electrical hardware design, embedded electronics development, system validation, and medical imaging systems. He plays a key role in the design, testing, and validation of critical subsystems for advanced PET Patient Handling Systems used in healthcare applications. His professional experience spans hardware architecture development, product engineering, commissioning, and system-level design. With a strong background in solving complex engineering challenges and delivering industry-ready solutions, he actively contributes to advancing practical engineering methodologies and innovation-driven hardware development.

About the Event

The workshop was conducted on 6 and 7 April 2026 with the objective of providing participants with practical exposure to electronic circuit design, hardware prototyping, sensor interfacing, and systematic debugging methodologies. The programme was designed to bridge the gap between theoretical knowledge and real-world engineering implementation by emphasizing industry-oriented design practices and problem-solving approaches.

The workshop commenced with an insightful discussion on engineering design thinking and the competencies expected from modern electronics engineers. Participants were introduced to the complete engineering workflow, including requirement analysis, system design, component selection, prototyping, testing, validation, and final product deployment. The resource person highlighted the importance of strong fundamentals, analytical thinking,

documentation practices, and effective communication in successfully developing engineering solutions. Through real-world examples from industry, students gained valuable insights into professional engineering practices and product development processes.



Glimpses of the Workshop

A major focus of the programme was the interpretation and effective utilization of technical datasheets. Participants learned how to analyze device specifications, pin configurations,

operating conditions, maximum ratings, and application circuits for practical design implementation. The sessions emphasized the importance of understanding technical documentation as a fundamental skill for electronics engineers, enabling participants to develop confidence in selecting and implementing components for real-world applications.

The workshop further introduced participants to electronic circuit prototyping through extensive hands-on activities involving the versatile **555 Timer IC**. Various operating modes including monostable, astable, bistable, and pulse-width modulation (PWM) configurations were discussed and implemented. Participants explored practical applications such as pulse generation, waveform creation, motor control, safety systems, and timing circuits. Through simulation and hardware implementation exercises, students were able to visualize circuit behavior, validate theoretical concepts, and gain practical experience in electronic system development.

The second day focused on cultivating a system-level design perspective and structured engineering problem-solving methodology. Participants were introduced to concepts such as requirement analysis, system architecture development, block diagram representation, and component selection strategies. Discussions highlighted the importance of understanding functional requirements, operational constraints, cost-performance trade-offs, reliability considerations, and lifecycle management in engineering design. The sessions emphasized that successful engineering solutions require balancing multiple practical factors rather than pursuing idealized designs.

To reinforce these concepts, participants analyzed real-world engineering problem statements involving temperature monitoring systems, automated lighting control systems, and industrial testing applications. Students were encouraged to identify requirements, develop system architectures, evaluate alternative solutions, and justify design decisions based on technical and practical considerations. Interactive activities enabled participants to apply design thinking principles while developing structured approaches to solving engineering challenges.

Another significant aspect of the workshop was the emphasis on debugging methodologies and fault analysis. Through practical exercises, participants learned systematic approaches to identifying, diagnosing, and rectifying hardware faults. Hands-on debugging sessions

improved students' ability to troubleshoot electronic systems, interpret circuit behavior, and apply logical reasoning to resolve implementation issues. These activities strengthened both technical competence and confidence in handling real-world hardware systems.

The workshop successfully integrated theoretical concepts, practical implementation, and industry perspectives to provide a comprehensive learning experience. By combining circuit prototyping, design thinking, sensor interfacing, requirement analysis, and debugging techniques, the programme equipped participants with valuable engineering skills relevant to academic projects, industrial applications, and future professional careers.

Key Outcomes of the Event

- Developed a strong understanding of engineering design thinking and systematic product development methodologies.
- Acquired practical experience in electronic circuit prototyping and hardware implementation.
- Gained proficiency in interpreting datasheets, technical specifications, and application circuits for engineering design.
- Enhanced understanding of the operation and applications of the 555 Timer IC in various electronic systems.
- Developed hands-on skills in circuit simulation, breadboard implementation, testing, and validation.
- Learned structured approaches to requirement analysis, system architecture development, and engineering decision-making.
- Gained exposure to sensor interfacing, signal conditioning, and practical hardware integration techniques.
- Enhanced problem-solving abilities through real-world engineering case studies and design activities.

- Acquired systematic debugging and fault-analysis skills for troubleshooting electronic circuits and systems.
- Improved understanding of component selection based on performance, reliability, cost, and application requirements.
- Strengthened analytical thinking and system-level design capabilities essential for professional engineering practice.
- Increased confidence in applying theoretical electronics concepts to practical industrial and product-development scenarios.

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Activity-17

Title : Hands on Workshop: “Embedded Systems in Innovative Practice Real-Time Design, Debugging & Edge AI”

Resource Persons :

- 1) **Mr. Vallinath S**
DGM for Embedded Products
JIO Platforms, Bengaluru
- 2) **Mr. Suresh Kumar H K**
Technical Lead
HCL Technologies, Bengaluru

Date : 07/05/2026 & 08/05/2026

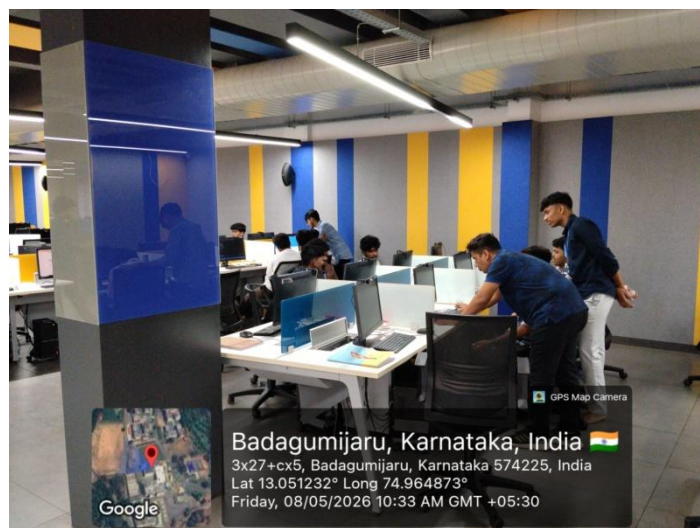
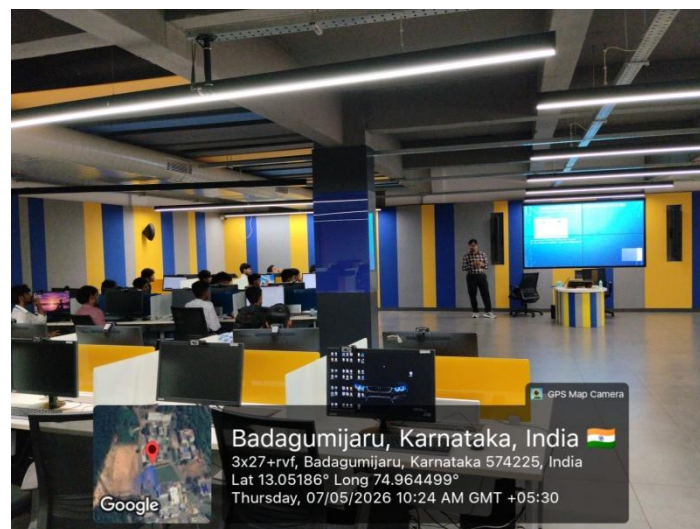
About the Resource Persons

Mr. Vallinath S is the Deputy General Manager (DGM) for Embedded Products at JIO Platforms, Bengaluru, with over 16 years of experience in firmware development, embedded software solutions, optical and Ethernet products, IoT platforms, and industrial automation systems. He has previously contributed to research and development activities at organizations such as Tejas Networks, Toshiba Semiconductor, and Robert Bosch. His expertise spans embedded hardware design, system architecture, real-time industrial solutions, semiconductor chipsets, and intelligent embedded technologies. His sessions provided participants with valuable insights into industrial practices, emerging technological trends, and modern embedded system design methodologies.

Mr. Suresh Kumar H K is a Technical Lead at HCL Technologies, Bengaluru, with extensive expertise in embedded systems, firmware development, UEFI/BIOS development, IoT technologies, and wireless communication systems. He possesses hands-on experience in Embedded C programming, real-time systems, STM32 and RL78 platforms, communication protocols such as CAN, SPI, I2C, UART, and LIN, along with development tools including IAR, KEIL, and MATLAB/Simulink. Through his practical sessions and demonstrations, he enabled students to gain industry-oriented exposure to embedded programming, IoT implementation, debugging techniques, and intelligent embedded applications.

About the Event

The workshop was conducted on 7th and 8th May 2026 at the MITE Alumni Innovation Centre with the objective of providing students with practical exposure to modern embedded systems, real-time programming, debugging methodologies, Internet of Things (IoT), and emerging Edge AI technologies. The programme was designed to bridge the gap between theoretical learning and industry-oriented application development through a combination of expert lectures, demonstrations, hands-on implementation, and interactive discussions.



Glimpse of workshop

The workshop commenced with sessions on the latest industrial trends in Embedded Systems, IoT, and Edge AI. Participants gained insights into the growing demand for embedded engineers, emerging applications in industrial automation, healthcare, communication systems, smart devices, and intelligent infrastructure. The resource persons highlighted the importance of practical skills, real-time processing requirements, and future opportunities in embedded technologies.

A major focus of the programme was embedded system design using the MSP430 microcontroller platform. Participants were introduced to MSP430 architecture, controller organization, memory architecture, hardware-software integration concepts, and real-time embedded programming techniques. The sessions provided a strong foundation in microcontroller-based system development and familiarized students with industry-relevant embedded design methodologies.

The workshop featured extensive hands-on sessions using MSP430 development boards, where participants actively implemented applications involving PWM generation, ADC interfacing, UART communication, timer programming, interrupt handling, and real-time application development. Students learned to write, compile, debug, and execute embedded programs while gaining practical experience in hardware interfacing and debugging techniques under the guidance of the resource persons.

The second day focused on IoT technologies and connected embedded systems using ESP32 and ESP8266 platforms. Participants explored IoT architecture, wireless communication, Wi-Fi connectivity, HTTP protocols, data transmission techniques, and real-time connected applications. Through practical demonstrations and implementation exercises, students developed IoT-enabled applications such as web-controlled LED systems, browser-based device control, wireless communication interfaces, and real-time monitoring systems. These activities provided valuable exposure to modern IoT application development and connected device ecosystems.

Another significant component of the programme was the introduction to Edge AI and TinyML technologies. Participants were introduced to the fundamentals of Machine Learning, intelligent sensing, embedded intelligence, and AI-enabled embedded applications.

The resource persons demonstrated Edge AI implementation using STM32 Blue Pill platforms, illustrating how intelligent processing can be performed directly on low-power embedded devices without relying entirely on cloud-based computing resources. These sessions exposed students to emerging technologies that are transforming the future of embedded systems and intelligent applications.

The workshop witnessed enthusiastic participation from students and successfully combined theoretical concepts with practical implementation. The interactive discussions, debugging exercises, IoT application development activities, and Edge AI demonstrations provided participants with valuable industry-oriented learning experiences while encouraging them to explore innovation, research, and entrepreneurship opportunities in embedded and intelligent systems.

Key Outcomes of the Event

- Developed a strong understanding of embedded systems, microcontrollers, and real-time processing concepts.
- Acquired practical knowledge of MSP430 architecture, embedded programming, and hardware-software integration.
- Gained hands-on experience in peripheral interfacing techniques including PWM, ADC, UART, timers, and interrupt handling.
- Enhanced skills in debugging embedded applications and analyzing real-time system behaviour.
- Learned IoT architecture, wireless communication principles, and connected device implementation.
- Developed practical IoT applications using ESP32 and ESP8266 development platforms.
- Acquired knowledge of web-based control systems, real-time monitoring, and IoT communication protocols.

- Gained exposure to modern concepts such as Edge AI, TinyML, and intelligent embedded systems.
- Understood the implementation of Machine Learning concepts on low-power embedded devices using Edge AI technologies.
- Improved problem-solving, logical thinking, and application development capabilities through extensive hands-on activities.
- Developed awareness of current industrial trends, emerging technologies, and career opportunities in embedded systems and IoT domains.

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Activity – 18

Title : FAREWELL: CLASS OF '26.

Date : 19/05/2026

About the Event

The “**Farewell – Class of '26**” programme was organized on **19 May 2026** at Auditorium-4 as a gesture of appreciation and celebration for the outgoing batch of students. The event served as a memorable occasion to acknowledge the achievements, friendships, experiences, and contributions of the graduating students while wishing them success in their future endeavors. Designed as a blend of celebration, gratitude, and reflection, the programme provided an opportunity for students and faculty members to come together and cherish the journey shared over the years.

The venue was elegantly decorated with welcome banners, creative displays, lighting arrangements, and stage decorations that created a vibrant and emotionally engaging atmosphere. A special attraction of the event was the display of photographs and memories from various academic activities, technical events, industrial visits, cultural programmes, and classroom experiences. These visual recollections enabled students to revisit significant moments from their academic journey and added a nostalgic touch to the celebration.

The programme commenced with a formal welcome to the gathering, followed by addresses from faculty members who shared words of encouragement, appreciation, and best wishes for the graduating students. The interactions highlighted the strong bond between students and faculty and reflected the supportive academic environment that had contributed to the students' personal and professional growth throughout their years of study.

One of the major highlights of the event was the enthusiastic participation of students in various cultural and entertainment activities. Junior students organized a variety of performances to express their affection and gratitude towards their seniors. The performances added energy and excitement to the programme while creating an atmosphere of joy, celebration, and togetherness. The interactive sessions, informal conversations, and shared memories further strengthened the connection between the outgoing and junior batches.

The farewell programme provided graduating students with an opportunity to reflect on their academic experiences, friendships, accomplishments, and personal growth achieved during their time in the institution. It also served as a platform to inspire confidence as they prepared to embark on new professional and academic journeys. The event successfully celebrated the spirit of friendship, teamwork, and mutual respect that characterizes the department's student community.



Group photo with Class of 2026

The programme concluded on an emotional and memorable note, leaving participants with cherished memories and a renewed sense of belonging to the department. The farewell served as a fitting tribute to the graduating batch and reinforced the lifelong bond between students, faculty members, and the institution.

Highlights of the Event

- Warm farewell celebration organized for the outgoing Class of 2026.
- Display of memorable photographs and moments from academic, technical, cultural, and co-curricular activities.
- Inspirational interactions between faculty members and graduating students.

- Enthusiastic cultural performances and entertainment activities organized by junior students.
- Strengthening of bonds between junior and senior students through interactive engagement.
- Celebration of student achievements, friendships, and academic experiences.
- Creation of a joyful, nostalgic, and emotionally meaningful environment.
- Active participation of students, faculty members, and ECSA coordinators.

Key Outcomes of the Event

- Provided a memorable and meaningful farewell to the graduating students.
- Strengthened interpersonal relationships and the sense of belonging among students.
- Fostered stronger connections between junior and senior batches.
- Encouraged students to reflect on their academic journey and personal growth.
- Created opportunities for sharing experiences, memories, and future aspirations.
- Promoted teamwork, leadership, and event management skills among student organizers.
- Enhanced student engagement through cultural, social, and interactive activities.
- Reinforced the values of friendship, gratitude, mutual respect, and departmental unity.
- Motivated graduating students to pursue higher studies, professional careers, and lifelong learning with confidence.
- Celebrated the positive culture, collaborative spirit, and vibrant student community of the department.

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Activity – 19

Title : Hands-on Workshop : “Transforming Specifications to Tapeout”

Resource Person : Mr. Praveen Gore
Director
Telequonce Private Limited,
Manipal

Date : 22/05/2026 & 23/05/2026

About the Resource Person

Mr. Praveen Gore is a distinguished semiconductor professional with over 22 years of extensive experience in VLSI Physical Design and advanced chip implementation. He currently serves as the **Director of Teloquence Private Limited, Manipal**, where he leads large-scale engineering programs and oversees multiple semiconductor design projects. Throughout his professional career, he has held key technical and leadership positions in globally renowned organizations including Intel Technologies, Qualcomm, HCL Technologies, Infosys, Wipro, KarMic, and Xindus. His expertise spans advanced VLSI physical design, chip implementation, design closure, automation frameworks, and semiconductor technologies down to advanced technology nodes. His rich industrial experience enabled participants to gain valuable insights into real-world ASIC design methodologies and semiconductor industry practices.

About the Event

The workshop was organized on 22nd and 23rd May 2026 at the VLSI Laboratory with the objective of providing students with practical exposure to modern ASIC and VLSI design methodologies. The workshop was designed to bridge the gap between academic learning and industry requirements by introducing participants to the complete semiconductor chip development process, from initial specifications to tapeout. The programme attracted enthusiastic participation from students and provided a platform for experiential learning through expert lectures, demonstrations, hands-on sessions, and interactive discussions.

The workshop commenced with an introduction to the semiconductor industry, highlighting the growing importance of ASIC design in modern applications such as consumer electronics,

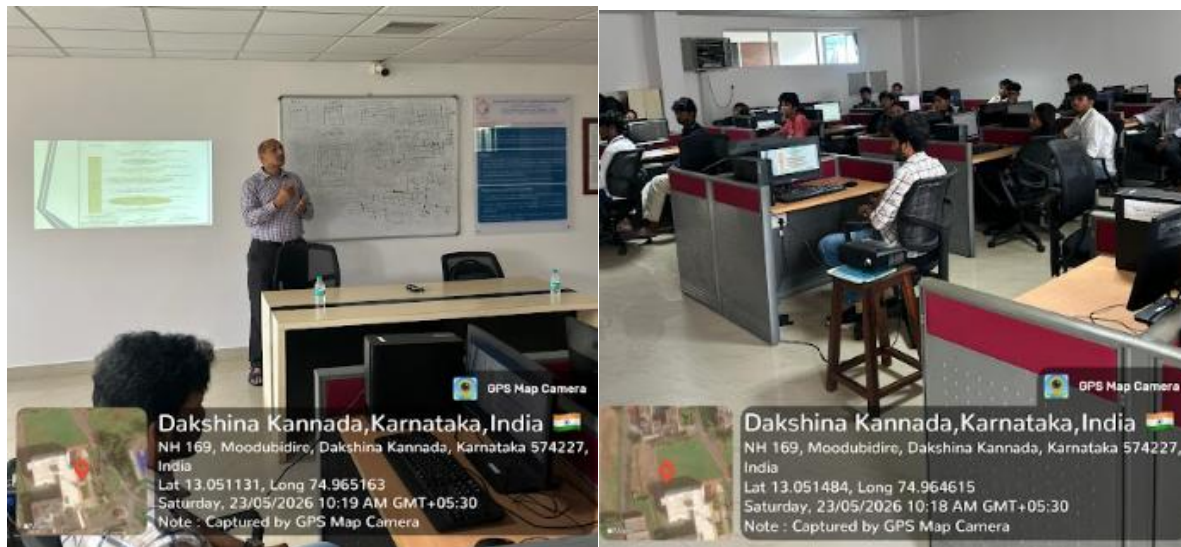
telecommunications, automotive systems, healthcare technologies, and intelligent electronic devices. Participants were introduced to the evolution of semiconductor technology, global fabrication trends, India's Semiconductor Mission (ISM), and emerging opportunities in the VLSI sector. These sessions provided a comprehensive understanding of the semiconductor ecosystem and future prospects in chip design.



[Mr. Praveen Gore delivering the session](#)

The technical sessions focused on the complete ASIC design flow beginning with specification development and architecture design. Participants learned how customer

requirements are translated into detailed chip specifications while considering critical design parameters such as performance, power consumption, area, reliability, and cost. The resource person explained the importance of architecture planning and system-level design decisions in achieving efficient semiconductor implementations.



Glimpses of Workshop

A significant portion of the workshop was devoted to **RTL (Register Transfer Level) Design** using Verilog HDL. Students gained exposure to hardware description language programming, digital circuit modelling, RTL coding practices, simulation techniques, and design verification methodologies. Through practical examples and demonstrations, participants understood how hardware functionality is represented and implemented using industry-standard design practices.

The workshop also included extensive hands-on training using industry-relevant tools such as **Cadence** and **EDA Playground**. Participants learned the synthesis process, where RTL designs are transformed into gate-level representations using standard cell libraries. The sessions covered design constraints, timing requirements, area optimization, power considerations, and netlist generation techniques. Students gained practical experience in implementing and analyzing digital circuits using professional VLSI design environments.

Further sessions focused on physical design methodologies, including floor planning, placement, Clock Tree Synthesis (CTS), routing, extraction, and post-layout simulation. Participants learned how synthesized designs are converted into physical chip layouts while optimizing performance and minimizing delays. The resource person explained the significance of clock distribution networks, routing strategies, and design optimization techniques used in contemporary semiconductor industries.

The workshop also introduced students to physical verification techniques such as **Design Rule Checking (DRC)** and **Layout Versus Schematic (LVS)** verification. Participants understood the importance of ensuring manufacturability and correctness of chip layouts before fabrication. Additional sessions on **Static Timing Analysis (STA)** and timing closure provided practical insights into identifying and resolving timing violations, optimizing circuit performance, and ensuring reliable chip operation.

The final sessions focused on the tapeout process and industry-standard semiconductor workflows. Participants gained an understanding of how verified chip designs are prepared for fabrication and how modern semiconductor companies execute large-scale VLSI projects. The workshop concluded with a valedictory session during which participants shared their experiences and appreciated the practical orientation, industrial relevance, and hands-on nature of the programme.

Key Outcomes of the Event

- Developed a comprehensive understanding of the complete ASIC design flow from specifications to tapeout.
- Acquired knowledge of VLSI design principles, semiconductor technologies, and modern chip development methodologies.
- Learned RTL design concepts and hardware description using Verilog HDL.
- Gained practical exposure to synthesis processes, gate-level design implementation, and netlist generation.

- Developed hands-on experience with industry-standard VLSI design tools such as Cadence and EDA Playground.
- Understood physical design stages including floor planning, placement, routing, and Clock Tree Synthesis (CTS).
- Acquired knowledge of physical verification methodologies such as DRC and LVS.
- Learned Static Timing Analysis (STA) concepts and timing optimization techniques used in industry.
- Gained insights into semiconductor fabrication processes and tapeout procedures.
- Enhanced understanding of power, performance, area, speed, and reliability considerations in chip design.
- Improved technical competency in ASIC and VLSI design through practical implementation and demonstrations.
- Developed awareness of emerging opportunities, industry expectations, and career prospects in the semiconductor and VLSI domains.

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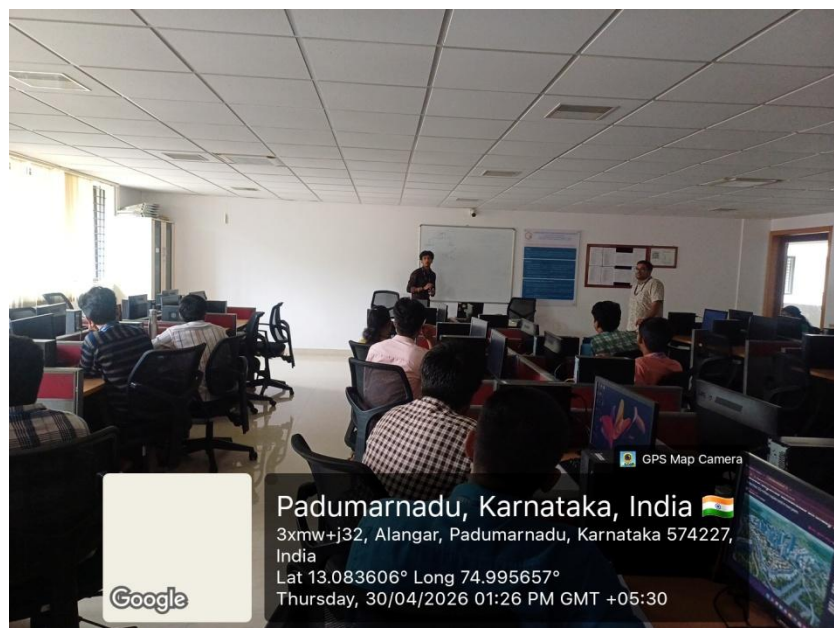
Activity – 20

Title : Technical Competition: “CMOS Combat: Decode, Design and Demonstrate Approach”

Date : 30/04/2026 & 02/05/2026

About the Event

A peer-learning programme titled “CMOS Combat: Decode, Design and Demonstrate” was conducted on **30 April 2026 and 2 May 2026** at the VLSI Laboratory with the objective of strengthening students’ understanding of CMOS technology and introducing them to VLSI schematic design using Cadence software. Designed as a student-driven learning initiative, the programme enabled senior students to share their technical knowledge and practical experience with junior students, thereby fostering collaborative learning and peer-assisted skill development.



Manvith and Amith Hegde explaining fundamental concept of CMOS

The programme focused on building a strong foundation in CMOS technology and VLSI design concepts. Participants were introduced to the operating principles of PMOS and NMOS transistors, CMOS inverter design, and the role of CMOS technology in modern

digital integrated circuits. Through interactive discussions and technical explanations, students gained insights into the construction, operation, and significance of CMOS logic circuits used in contemporary semiconductor devices.



Ms. Ankitha and Ms. Mehvish guiding the students with Design procedure using Cadence

A major component of the programme involved practical exposure to **Cadence Virtuoso**, an industry-standard Electronic Design Automation (EDA) tool widely used for VLSI design. Participants were guided through schematic creation, simulation procedures, waveform analysis, and output verification techniques. The student facilitators demonstrated the complete design flow, enabling participants to understand how digital circuits are designed, simulated, and validated using professional design tools. The hands-on activities provided valuable exposure to real-world VLSI design practices and enhanced students' confidence in using EDA software environments.



Student's participation

The peer-learning approach created an interactive and comfortable learning atmosphere that encouraged active participation, discussion, and knowledge sharing. Participants engaged enthusiastically in practical exercises, clarified technical concepts through discussions with the student facilitators, and explored various aspects of CMOS circuit implementation and simulation. The programme also included a quiz session on HDL and digital logic fundamentals, allowing participants to assess and reinforce their understanding of the concepts covered during the training sessions.

The second phase of the programme featured a technical competition designed to evaluate both conceptual understanding and practical implementation skills. Students participated in teams and competed in multiple rounds that tested their knowledge of Verilog, Digital Systems, CMOS concepts, and Cadence-based circuit implementation. Participants were challenged to analyze Boolean expressions, design corresponding logic circuits, perform simulations, and verify outputs. The competition promoted analytical thinking, teamwork, problem-solving abilities, and practical application of VLSI design concepts in a highly engaging environment.

The programme successfully combined technical learning, practical implementation, and peer-assisted mentoring to create a meaningful educational experience. By integrating theory with hands-on exposure and healthy competition, the event encouraged participants to explore advanced areas of VLSI design while strengthening their technical competencies and confidence in semiconductor-related technologies.

Highlights of the Event

- Peer-learning programme conducted by sixth-semester students for fourth-semester students.
- Interactive sessions on CMOS technology, PMOS and NMOS transistor operation, and CMOS inverter design.
- Hands-on exposure to Cadence Virtuoso for VLSI schematic design and simulation.
- Practical training on waveform analysis, circuit verification, and simulation procedures.

- Technical quiz on HDL and digital logic fundamentals.
- Team-based competition focusing on Verilog, Digital Systems, and Cadence implementation.
- Practical design and simulation of Boolean expressions using VLSI design tools.
- Promotion of collaborative learning, peer mentoring, and technical knowledge sharing.
- Recognition of outstanding performers through competitive evaluation and prize distribution.

Key Outcomes of the Event

- Developed a strong understanding of CMOS technology and its role in modern digital integrated circuits.
- Gained knowledge of PMOS and NMOS transistor characteristics and CMOS logic design principles.
- Acquired practical exposure to Cadence Virtuoso and industry-standard VLSI design workflows.
- Learned schematic creation, simulation procedures, waveform analysis, and output verification techniques.
- Enhanced understanding of CMOS inverter operation and digital circuit implementation.
- Developed hands-on skills in circuit design, simulation, and validation using EDA tools.
- Strengthened analytical thinking and problem-solving abilities through practical design challenges.
- Improved understanding of Verilog, digital systems, and logic design concepts through competitive activities.



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- Encouraged collaborative learning, peer interaction, and technical knowledge sharing among students.
- Increased confidence and interest in pursuing advanced studies, projects, and careers in VLSI design and semiconductor engineering.
- Enhanced teamwork, communication, leadership, and presentation skills among both participants and student facilitators.

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Activity – 21

Title : Hands-on Workshop : Sparks and Fields: Hands-On Electromagnetics

Resource Person : Dr. Suryanarayan K
Professor and Head of the Department, EEE
NMAM Institute of Technology (NMAMIT), NITTE

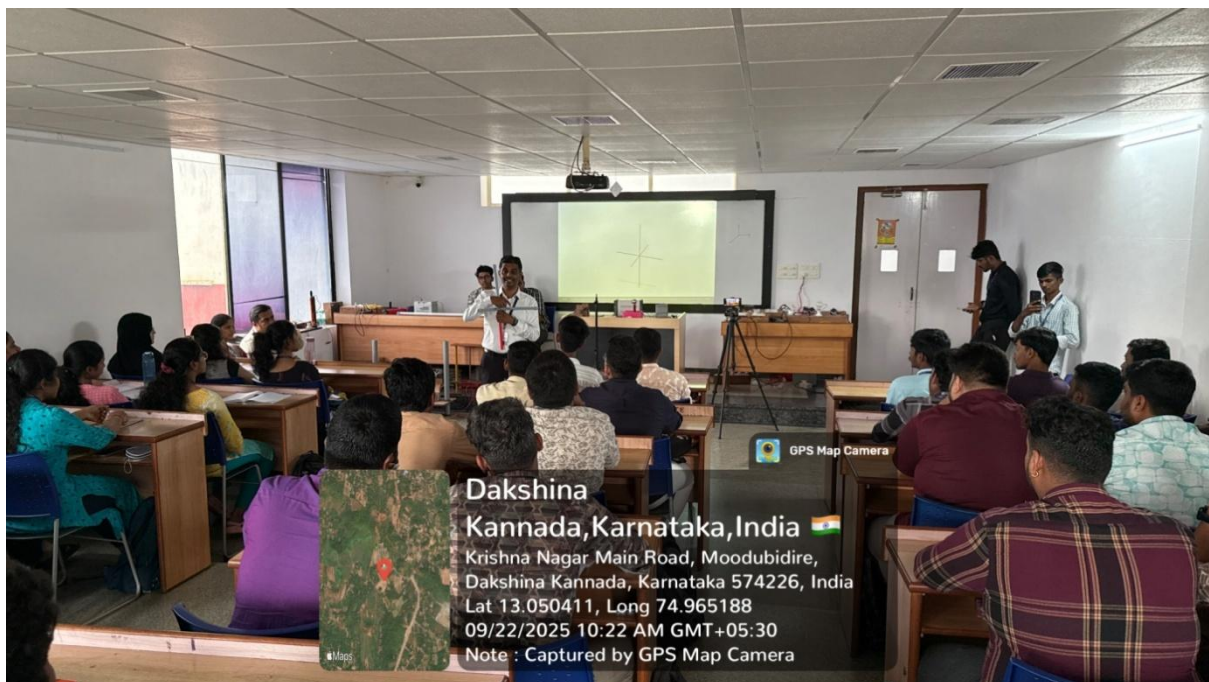
Date : 22/09/2025 & 23/09/2025

About the Resource Person

Dr. Suryanarayan K is a Professor and Head of the Department of Electrical and Electronics Engineering at NMAM Institute of Technology (NMAMIT), Nitte. He is an accomplished academician and researcher with extensive expertise in Electromagnetics, Electrical Engineering, Applied Physics, and Engineering Education. With several years of teaching, research, and academic leadership experience, he has contributed significantly to advancing engineering education through innovative teaching methodologies and experiential learning practices. His ability to simplify complex electromagnetic concepts through demonstrations and practical applications enabled students to gain a deeper understanding of fundamental engineering principles.

About the Event

The workshop was conducted on 22 and 23 September 2025 with the objective of bridging the gap between theoretical understanding and practical application of Electromagnetic Theory. Designed exclusively for fifth-semester Electronics and Communication Engineering students, the programme provided an immersive learning experience through demonstrations, experiments, interactive discussions, and hands-on activities focused on fundamental electromagnetic principles. The workshop commenced with an introduction to the fundamentals of electromagnetics and their significance in modern engineering applications. Participants were exposed to the basic concepts governing electric and magnetic fields and their role in communication systems, electrical devices, wireless technologies, and electronic applications. The resource person emphasized the importance of developing a strong conceptual foundation in electromagnetics, as it forms the basis for several advanced domains in Electronics and Communication Engineering.



Dr. Suryanarayan K addressing students during the technical session

A major highlight of the programme was the practical demonstration of fundamental electromagnetic laws using working models and experimental setups. Participants observed and analyzed various electromagnetic phenomena associated with Coulomb's Law, Gauss's Law for Electric Fields, Gauss's Law for Magnetic Fields, Faraday's Law of Electromagnetic

Induction, Ampere's Circuital Law, Biot-Savart Law, Lorentz Force Law, Superposition Principle, and the Continuity Equation. These demonstrations enabled students to visualize concepts that are traditionally taught through mathematical formulations and theoretical analysis.

The interactive sessions encouraged students to actively engage with the experiments and explore the relationship between electromagnetic theory and practical engineering systems. Through guided observations and discussions, participants gained a clearer understanding of electric and magnetic field interactions, electromagnetic induction phenomena, current distribution, and force generation mechanisms. The demonstrations effectively transformed abstract concepts into tangible experiences, thereby enhancing conceptual clarity and retention. The workshop also incorporated hands-on activities where students built simple experimental models and performed guided exercises to reinforce the principles discussed during the technical sessions. These activities enabled participants to apply theoretical concepts in practical scenarios while developing analytical thinking and problem-solving abilities. The experiential learning approach fostered curiosity and encouraged students to investigate the real-world applications of electromagnetic principles in engineering systems.

The programme successfully created an engaging and collaborative learning environment where students could interact directly with the resource person, clarify conceptual doubts, and strengthen their understanding of core electromagnetics. By combining theoretical explanations with practical demonstrations and hands-on activities, the workshop significantly enhanced students' confidence in applying electromagnetic concepts to engineering problems and advanced communication technologies.

Key Outcomes of the Event

- Developed a strong conceptual understanding of fundamental electromagnetic principles and field theory.
- Gained practical exposure to the visualization and interpretation of electric and magnetic field interactions.

- Enhanced understanding of Coulomb's Law, Gauss's Laws, Faraday's Law, Ampere's Circuital Law, Biot–Savart Law, Lorentz Force Law, and related electromagnetic concepts.
- Acquired experiential learning through real-time demonstrations of electromagnetic phenomena.
- Improved ability to correlate theoretical electromagnetic equations with practical engineering applications.
- Developed analytical thinking and problem-solving skills through observation, experimentation, and model-based learning.
- Gained hands-on experience in implementing simple experimental setups related to electromagnetic concepts.
- Enhanced understanding of the role of electromagnetics in communication systems, wireless technologies, and electrical engineering applications.
- Improved conceptual clarity and confidence in tackling advanced Electromagnetic Theory subjects.
- Fostered curiosity, scientific inquiry, and application-oriented learning among participants.
- Strengthened the foundation required for higher-level studies in antennas, microwave engineering, wireless communication, and electromagnetic compatibility.
- Encouraged active participation and collaborative learning through interactive demonstrations and practical activities.

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Activity – 22

Title : Hands-on Workshop : “Flask & Beyond: Docker to AWS

Resource Person : Mr. Dilip M. B
DevOps Team Lead,
Smart Food Safe: Quality & Food Safety Management Software
Bangalore

Date : 17/10/2025 & 18/10/2025

About the Resource Person

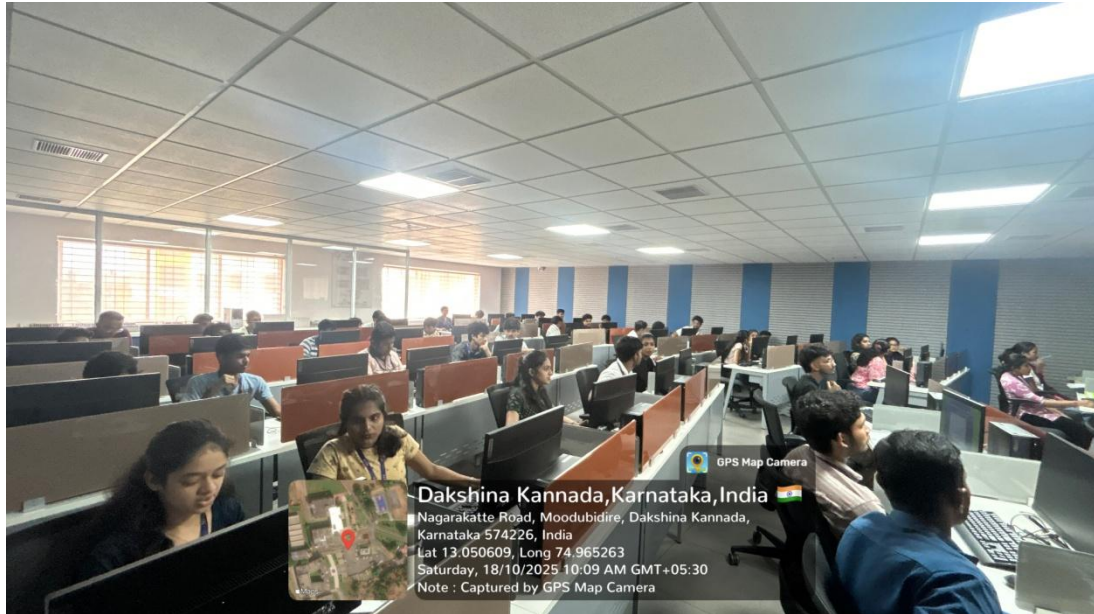
Mr. Dilip M. B is a DevOps Team Lead at Smart Food Safe, a Quality and Food Safety Management Software organization. He possesses extensive expertise in web application deployment, cloud computing, DevOps practices, containerization technologies, Linux server administration, and cloud-based infrastructure management. His professional experience includes developing scalable software solutions, implementing deployment pipelines, managing cloud environments, and integrating modern DevOps workflows. Through his industry experience and practical approach to training, he enabled participants to gain hands-on exposure to contemporary web development and cloud deployment technologies.

About the Event

The workshop was conducted on 17 and 18 October 2025 at the MITE Alumni Innovation Center as part of the IEEE Day 2025 celebrations. The programme was designed to provide students with practical exposure to modern web application development, deployment methodologies, containerization technologies, and cloud computing platforms. The workshop aimed to bridge the gap between theoretical knowledge and real-world software deployment practices by enabling participants to experience the complete lifecycle of a web application from development to production deployment.

The workshop commenced with an introduction to modern web technologies and cloud-based application development. Participants were introduced to the Flask framework and gained an understanding of its role in developing lightweight and scalable web applications. The

resource person explained the structure of Flask applications, routing mechanisms, application architecture, and the workflow involved in modern web development. Through guided demonstrations and hands-on exercises, participants successfully developed their first Flask-based web applications and explored the fundamentals of backend application development.



Glimpse of the event

A major focus of the first day was familiarizing participants with Linux operating systems and server environments commonly used for hosting web applications. Students learned essential Linux commands, file system navigation techniques, permission management, process handling, and environment configuration. Practical exercises enabled participants to understand how Linux-based systems serve as the backbone of modern server infrastructure and application hosting environments. These sessions strengthened students' confidence in working with command-line interfaces and managing server-side resources.

The workshop further introduced participants to Docker containerization technology, highlighting its significance in modern software deployment workflows. The resource person explained how Docker enables consistent application execution across different environments and simplifies deployment processes. Through demonstrations and practical examples, students gained insights into container creation, application packaging, dependency management, and deployment strategies that are widely adopted in industry for scalable software development.

The second day focused on application deployment and cloud integration. Participants learned how to deploy Flask applications on Linux servers and configure production-ready environments for web hosting. The sessions covered deployment procedures, server configuration, domain mapping, live application access, and troubleshooting methodologies. Students gained practical exposure to the steps involved in transforming locally developed applications into accessible web services deployed on server infrastructure.

An important component of the programme was the introduction to cloud computing concepts and AWS services. Participants explored how cloud platforms facilitate scalable application deployment, infrastructure management, and resource optimization. The resource person demonstrated the integration of Docker-based applications with cloud environments and discussed best practices for managing reliability, scalability, and performance in cloud-hosted systems. These sessions provided valuable industry-oriented insights into modern DevOps and cloud deployment workflows.

Throughout the workshop, students actively participated in hands-on exercises, live coding demonstrations, deployment activities, and troubleshooting sessions. The practical nature of

the programme enabled participants to strengthen their technical skills while gaining confidence in applying web development and cloud technologies to real-world applications. The workshop successfully exposed students to industry-relevant tools and practices that are increasingly essential in contemporary software engineering environments.

Key Outcomes of the Event

- Developed a strong understanding of modern web application development using the Flask framework.
- Acquired practical experience in creating, testing, and deploying web applications.
- Gained proficiency in Linux fundamentals, command-line operations, file management, and server administration concepts.
- Learned the architecture and workflow of Flask-based web applications.
- Acquired knowledge of Docker containerization and its role in modern software deployment.
- Developed practical skills in packaging, managing, and deploying applications using container technologies.
- Gained hands-on experience in deploying applications on Linux-based server environments.
- Learned domain mapping, server configuration, and troubleshooting techniques for production deployments.
- Acquired foundational knowledge of cloud computing and AWS service integration.
- Enhanced understanding of DevOps practices, deployment workflows, scalability, and infrastructure management.

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Activity – 23

Title : IEEE Day Celebration – 2025

Guests : **Mr. Dilip M. B**
DevOps Team Lead,
Smart Food Safe: Quality & Food Safety Management Software
Bangalore

Dr. Puneeth N. Thotad
IEEE Bangalore Section ExCom (SAC)
IEEE NKSS Joint Secretary, Bangalore

Date : 18/10/2025

About the Guests

Mr. Dilip M. B is a DevOps Team Lead at Smart Food Safe, Bengaluru, with expertise in web technologies, cloud computing, DevOps practices, containerization, and software deployment workflows. His professional experience spans application development, cloud infrastructure management, deployment automation, and modern software engineering practices. Through his industry exposure, he has actively guided students in understanding emerging technologies and industry-oriented software development methodologies.

Dr. Puneeth N. Thotad serves as a member of the IEEE Bangalore Section Executive Committee (SAC) and is the Joint Secretary of the IEEE North Karnataka Subsection. He has been actively involved in promoting professional development, technical excellence, research activities, and student engagement through IEEE initiatives. His contributions to IEEE activities have enabled students and young professionals to benefit from global networking opportunities, technical resources, and collaborative learning platforms.

About the Event

The IEEE Day Celebration 2025 was organized on 18 October 2025 at Auditorium II to commemorate the spirit of innovation, collaboration, and technological advancement that

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defines the global IEEE community. The event served as a platform to celebrate the contributions of IEEE towards advancing technology for humanity while encouraging students to actively participate in professional, technical, and research-oriented activities. The programme brought together students, faculty members, IEEE members, and distinguished guests for an enriching interaction centered around technology, innovation, and professional development.



Address from Guests

The celebration commenced with an inaugural ceremony attended by faculty members, student representatives, and invited dignitaries. The gathering reflected on the significance of IEEE Day, which commemorates the historic occasion when IEEE members first came together to exchange technical ideas and innovations. The event emphasized the importance of professional societies in fostering technical growth, innovation, leadership, and collaborative learning among engineering students.

A major highlight of the programme was the address delivered by **Mr. Dilip M. B.**, who shared valuable insights into the rapidly evolving landscape of web technologies, cloud computing, and digital transformation. Drawing from his professional experience in DevOps and software deployment, he emphasized the importance of acquiring practical skills, embracing emerging technologies, and continuously upgrading technical competencies. The session encouraged students to bridge the gap between theoretical knowledge and industrial requirements through hands-on learning and real-world project development.

The programme also featured an inspiring address by Dr. Puneeth N. Thotad, who highlighted the role of IEEE in shaping the professional growth of engineering students. He elaborated on the opportunities available through IEEE membership, including access to global technical resources, professional networking, research publications, conferences, workshops, and leadership development programmes. Students were encouraged to actively participate in IEEE activities to broaden their technical perspectives and contribute to innovation-driven initiatives.

Another important component of the event was the presentation showcasing the achievements and activities of the IEEE MITE Student Branch. The presentation highlighted various workshops, technical talks, competitions, student-led initiatives, and professional development activities conducted during the year. This provided participants with an overview of the branch's contributions towards promoting technical excellence, innovation, and experiential learning among students.

The celebration created an engaging environment for interaction, networking, and knowledge sharing among students and professionals. The event successfully reinforced the values of continuous learning, innovation, collaboration, and professional excellence that form the

foundation of IEEE's mission. It also motivated students to actively engage in technical communities and pursue opportunities that contribute to both personal and professional growth.

Key Outcomes of the Event

- Enhanced awareness of IEEE's global mission, vision, and contributions towards advancing technology for humanity.
- Developed a better understanding of the benefits and opportunities associated with IEEE membership.
- Gained insights into emerging trends in web technologies, cloud computing, DevOps, and digital transformation.
- Understood the importance of continuous learning and skill development in meeting industry expectations.
- Increased awareness of professional networking, research, publication, and leadership opportunities available through IEEE.
- Encouraged active participation in technical societies, workshops, conferences, and innovation-driven initiatives.
- Motivated students to bridge the gap between academic learning and practical industry requirements.
- Promoted a culture of collaboration, innovation, and professional engagement among students.
- Strengthened interest in research, technology development, and lifelong learning.

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Activity – 24

Title: C Programming Competition: “C-QUEST 2.0”

Student Coordinator: Mr Rohan Gowda S

7th sem ECE

Date: 20/09/2025

About the Event

C-QUEST 2.0 was conducted on 20 September 2025 as a coding competition aimed at fostering programming proficiency, analytical thinking, and problem-solving abilities among students. Organized as a technical skill development initiative, the competition provided participants with an opportunity to apply their knowledge of C programming in a competitive environment while enhancing their logical reasoning and algorithmic thinking capabilities. Building upon the success of its inaugural edition, the event attracted enthusiastic participation and emerged as one of the flagship technical competitions of the academic year.

The competition was carefully structured to evaluate both theoretical understanding and practical coding skills through a multi-stage assessment process. The primary objective was to encourage students to apply programming concepts to real-world problem-solving scenarios while promoting a culture of technical excellence, innovation, and peer learning. The event also served as a platform for identifying talented programmers and motivating them to participate in advanced technical competitions and coding challenges.

The first round consisted of an online multiple-choice quiz conducted through the HackerRank platform. Participants were evaluated on their understanding of core C programming concepts, including data types, operators, control structures, loops, arrays, pointers, functions, recursion, and input-output operations. This qualifying round assessed the conceptual foundation of participants and shortlisted the most proficient teams for the subsequent stage of the competition.

The second round focused on hands-on coding challenges that required participants to develop logical and efficient solutions to a set of programming problems. Students were evaluated on various aspects such as algorithm design, coding accuracy, program optimization, debugging skills, logical reasoning, and effective time management. The practical nature of the challenges encouraged participants to think critically, implement efficient algorithms, and demonstrate their ability to solve problems under competitive conditions. Both rounds were conducted through online platforms, ensuring transparency and fairness throughout the evaluation process.



Glimpse of the event

The event witnessed an overwhelming response, with more than eighty teams registering for the competition through the Unstop platform. Following the preliminary evaluation, forty teams advanced to the final coding round based on their performance in the qualifying quiz. The competition generated an enthusiastic and intellectually stimulating environment where participants actively engaged in problem-solving, collaborative discussions, and technical exploration. The seamless execution of the event was facilitated through the coordinated efforts of faculty members and student volunteers who ensured smooth conduct of all activities.

The final round showcased the technical competence, creativity, and perseverance of the participants. Teams competed intensely to develop optimized solutions within the stipulated time, demonstrating strong programming abilities and teamwork. The competition successfully provided students with valuable exposure to industry-relevant coding practices and professional coding platforms while reinforcing the importance of continuous learning and technical excellence.

Highlights of the Event

- Coding competition designed to evaluate programming proficiency and problem-solving abilities.
- Conducted through two competitive rounds involving theoretical and practical assessments.
- Online qualifying quiz hosted on the HackerRank platform.
- Hands-on coding challenges focusing on algorithm design and program implementation.
- Participation of over 80 teams, reflecting strong student interest and engagement.
- Selection of top-performing teams through a transparent multi-stage evaluation process.
- Extensive use of industry-relevant coding and assessment platforms.
- Promotion of collaborative learning, technical excellence, and competitive programming culture.

- Recognition of outstanding performers through prizes and certificates.

Key Outcomes of the Event

- Strengthened programming fundamentals and practical coding skills in C programming.
- Enhanced logical reasoning, algorithmic thinking, and analytical problem-solving abilities.
- Developed proficiency in solving real-time programming challenges under time constraints.
- Improved understanding of data structures, control structures, arrays, pointers, functions, and recursion.
- Acquired hands-on experience using competitive coding platforms such as HackerRank.
- Enhanced debugging, code optimization, and program validation skills.
- Improved teamwork, communication, and collaborative problem-solving abilities.
- Developed confidence in participating in coding competitions and technical contests.
- Fostered a culture of innovation, peer learning, and technical excellence among students.
- Encouraged continuous skill development and preparedness for higher-level technical competitions, internships, and industry recruitment processes.
- Increased awareness of professional coding practices and real-world software development challenges.

Award Winners

- **First Place** : Srishti Ittigatti & Prathiksha Poojary
- **Second Place:** ShreeRama V R & Uday M
- **Third Place** : Sulaksha Shetty & Disha Gowda

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Activity – 25

Title : **Coding Competition : CODESTORM 2025**

Date : **14/11/2025 & 15/11/2025**

About the Event

CODESTORM 2025 was conducted on **14 and 15 November 2025** as a coding competition aimed at fostering computational thinking, innovation, and competitive programming skills among students. Organized under the banner of ECSA in association with the Institution's Innovation Council (IIC), the event provided a common platform for students from various disciplines to demonstrate their coding proficiency, logical reasoning, and problem-solving abilities. With the theme **“Brace the Storm, Code to Conquer,”** the competition encouraged participants to challenge themselves in a dynamic and intellectually stimulating environment.

The competition was designed to promote coding culture and strengthen analytical thinking among students through practical problem-solving activities. By bringing together participants from multiple academic disciplines, the event fostered interdisciplinary interaction and collaborative learning while exposing students to the challenges and excitement of competitive programming. The programme also aligned with the innovation and skill-development objectives of the Institution's Innovation Council by encouraging students to develop industry-relevant technical competencies.

The coding challenges were carefully designed to assess multiple dimensions of programming ability, including logical reasoning, algorithm design, code efficiency, accuracy, and effective time management. Participants worked in teams and were required to solve programming problems within specified time constraints, simulating real-world competitive coding environments. The competition provided students with opportunities to apply their theoretical knowledge to practical challenges while improving their ability to develop optimized and efficient solutions.

Throughout the event, participants demonstrated remarkable enthusiasm, dedication, and technical competence. The interdisciplinary nature of the competition encouraged students

from different branches to interact, exchange ideas, and learn from diverse approaches to problem-solving. The competitive yet collaborative atmosphere motivated students to think creatively, explore innovative coding techniques, and enhance their confidence in tackling complex programming tasks.



Glimpse of the event

The event successfully created a professional competitive programming environment that emphasized technical excellence, teamwork, and innovation. Participants benefited from exposure to real-time coding challenges, industry-relevant problem-solving methodologies,

and collaborative learning experiences. The competition also served as an effective platform for identifying talented programmers and nurturing their potential for future technical competitions, hackathons, and innovation-driven initiatives.

Highlights of the Event

- Institution-level coding competition conducted over two days.
- Open participation for students from all academic branches.
- Organized under ECSA in association with the Institution's Innovation Council (IIC).
- Coding challenges designed to evaluate programming proficiency and computational thinking.
- Assessment of logical reasoning, algorithm design, code efficiency, and accuracy.
- Promotion of interdisciplinary interaction and collaborative learning.
- Exposure to competitive programming environments and real-time problem-solving.
- Strong student participation and enthusiastic engagement throughout the competition.
- Recognition of outstanding performers through competitive evaluation.

Key Outcomes of the Event

- Enhanced coding proficiency and practical programming skills among participants.
- Strengthened logical reasoning and analytical problem-solving abilities.
- Improved understanding of algorithm design and optimized solution development.
- Developed confidence in tackling real-time coding and programming challenges.
- Promoted innovation, creativity, and computational thinking among students.

- Encouraged teamwork, collaboration, and interdisciplinary interaction.
- Improved time-management skills and decision-making under competitive conditions.
- Provided valuable exposure to professional competitive programming environments.
- Identified talented students with strong technical and analytical capabilities.
- Fostered a culture of technical excellence, innovation, and continuous learning.
- Strengthened student engagement through ECSA and Institution's Innovation Council initiatives.
- Encouraged participation in future coding competitions, hackathons, and technology-driven innovation activities.

Award Winners

Winner – Team Mutex

- Karthik Hegde (4MT23CS076)
- Jagadish (4MT23CS068)

Runner-Up – Coding Duo

- Shruthan T M (4MT24IC053)
- Anwesh A Salian (4MT24AI005)

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Activity-26

Title: Awareness Program on “Safe Eating and Smart Storing” at Alangar and Jainpete, Moodabidri

Date: 01/04/2026 to 08/04/2026

About the Event

The Department of Electronics & Communication Engineering organized an awareness programme on “Safe Eating and Smart Storing” under the AICTE Activity Point Programme. The initiative aimed to educate the public on food safety, food additives, preservatives, healthy dietary practices, and traditional food storage methods. A total of **131 sixth-semester students** participated in the activity and were divided into groups to conduct research and awareness campaigns. Students studied food labels, food additive codes, preservatives, artificial sweeteners, and natural food preservation methods before carrying out awareness drives in Alangar and Jainpete, Moodabidri. The programme encouraged healthier food choices and promoted sustainable food storage practices among the local community.



Glimpses of Awareness Program

Highlights of the Event

- Participation of 131 sixth-semester students.

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- Study of food additives and preservatives used in packaged foods.
- Preparation of charts, posters, and awareness materials.
- Public awareness campaign conducted in Alangar and Jainpet.
- Demonstrations on reading food labels and identifying additive codes.
- Awareness on traditional food preservation techniques.
- Direct interaction with residents, consumers, and shopkeepers.
- Promotion of healthy eating habits and sustainable storage methods.



Glimpses of Awareness Program

Key Outcomes of the Event

- Increased public awareness regarding food safety.
- Educated consumers on the effects of excessive food additives.
- Promoted healthy and balanced dietary practices.
- Encouraged adoption of natural food preservation methods.
- Enhanced communication and teamwork skills among students.

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Activity-27

Title: Awareness Program on “Environmental Awareness & Conservation” at Market Road, Moodabidri

Date: 17/04/2026 to 23/04/2026

About the Event

The Department of Electronics & Communication Engineering conducted an awareness programme on “**Environmental Awareness & Conservation**” under the AICTE and NSS-NCMC Public Awareness Outreach Programme. The objective was to educate the public on environmental challenges, conservation practices, and sustainable living. A total of **131 sixth-semester students** participated in preparing awareness materials and conducting campaigns across major public locations in Moodabidri. The programme addressed topics such as pollution, climate change, biodiversity conservation, waste management, renewable practices, and resource conservation.



Glimpses of Awareness Program

Highlights of the Event

- Participation of 131 sixth-semester students.
- Awareness materials prepared using government and environmental resources.
- Coverage of pollution, climate change, biodiversity, and waste management.
- Promotion of the 3Rs: Reduce, Reuse, Recycle.
- Awareness on water and energy conservation.
- Public interactions at Market Road, Navami Circle, and nearby locations.
- Discussion on environmental sustainability and climate-related challenges.
- Encouragement of responsible environmental practices.



Glimpses of Awareness Program

Key Outcomes of the Event

- Improved environmental awareness among the public.
- Encouraged sustainable lifestyle practices.
- Promoted responsible use of natural resources.
- Enhanced understanding of conservation measures.
- Strengthened students' leadership and communication skills.

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Activity-28

Title: Awareness Program on “Safe Food, Smart Storage” at Moodabidri City

Date: 22/09/2025 to 17/10/2025

About the Event

The Department of Electronics & Communication Engineering organized an AICTE Activity Point Programme titled “**Safe Food, Smart Storage.**” The programme focused on educating the public about food safety, food preservation methods, food labeling, and the health implications of chemical preservatives. Students collected information from FSSAI guidelines, food labels, and literature related to food preservation. Subsequently, a public awareness campaign was conducted in Moodabidri to educate citizens about safe food consumption and storage practices. A total of **134 students** actively participated in the initiative.



Student's participation

Highlights of the Event

- Participation of 134 students.
- Study of chemical and natural food preservatives.
- Reference to FSSAI guidelines and standards.
- Awareness on food labels and preservative identification.

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- Public interaction sessions in Moodabidri.
- Promotion of natural preservation techniques.
- Discussions on food spoilage prevention and food hygiene.
- Community-oriented awareness programme.



Glimpses of Awareness Program

Key Outcomes of the Event

- Increased awareness about food safety regulations.

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- Encouraged healthier food consumption practices.
- Improved public understanding of food labeling.
- Promoted safe and natural food preservation methods.
- Developed research and communication skills among students.
- Enhanced social responsibility and community participation.
- Provided experiential learning opportunities.

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Activity-29

Title: Awareness Program on “Swachh Bharat Abhiyan” at Bannadka, Moodabidri.

Date: 09/12/2025

About the Event

As part of the AICTE Activity Point Programme, the Department of Electronics & Communication Engineering organized an awareness and cleanliness drive under “**Swachh Bharat Abhiyan**” at Bannadka, Moodabidri. The programme aimed to promote cleanliness, hygiene, waste management, and public health awareness. A total of **134 third-semester students** participated in the activity and engaged with local residents to spread awareness about sanitation, waste segregation, and environmental cleanliness. The initiative supported the national mission of building a cleaner and healthier society.



Student's participation

Highlights of the Event

- Participation of 134 third-semester students.
- Awareness on personal hygiene and sanitation.
- Promotion of proper waste disposal practices.
- Demonstration of wet and dry waste segregation.

- Community interaction with local residents.
- Cleanliness drive conducted at Bannadka.
- Awareness on reducing plastic usage.
- Promotion of civic responsibility and environmental cleanliness.



Glimpse of the event

Key Outcomes of the Event

- Improved awareness regarding hygiene and sanitation.
- Encouraged waste segregation and responsible disposal.
- Promoted cleaner surroundings and healthier lifestyles.
- Strengthened community participation in cleanliness initiatives.
- Enhanced teamwork and leadership skills among students.
- Developed civic responsibility and social commitment.
- Contributed to the objectives of Swachh Bharat Mission.

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