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

INTERNAL QULAITY ASSURANCE CELL

(IQAC)

Report for the AY 2024-25

COMPOSITION OF THE INTERNAL QUALITY ASSURANCE CELL (IQAC)
AY 2024-25

The composition of IQAC for the Academic Year 2024-25 is as follows:

Sl. No.	Name	Representation	Role
1	Dr Prashanth C M	Principal	Chairperson
2	Dr Vinayambika S Bhat	Dean Quality Assurance and HoD - Electronics & Communication Engineering	Convener
3	Mr Rajesh Chowta	President, Rajalaxmi Education Trust	Management Representative
4	Mr Shiva Prakash Rao	Local Society	External Member
5	Dr C R Rajashekar	Vice-Principal, Professor & HoD - Mechanical Engineering	Internal Members
6	Dr Anand S N	Professor & HoD - Aeronautical Engineering	
7	Dr K G Madhwaraj	Professor & HoD - MCA	
8	Dr Ravinarayana B	Associate Professor & HoD - Computer Science & Engineering	
9	Dr Jyothi S	Professor & HoD - Mathematics	
10	Mr Narendra U P	Director Placements, Training & Industrial Relations	
11	Dr Shreekanth G Naik	Assistant Professor, Dept of Management Studies	
12	Mr Sunil Kumar	Sr. Assistant Professor & HoD -AIML	

Sl. No.	Name	Representation	Role
13	Mr Avinash N J	Assistant Professor, Dept of Electronics & Communication Engineering	Internal Members
14	Ms Mallika Shetty	Head of Accounts	
15	Mr Mohammed Azzan Patni	Director, PACE Wisdom Solutions Pvt. Ltd. Mangaluru. [2011 Graduate-Alumni]	Alumni Member
16	Prabal Raj	3rd year, Dept. of Electronics & Communication Engineering [USN:4MT21EC062]	Student Member

PROCEEDINGS OF IQAC MEETING HELD ON 07/12/2024

A meeting of the Internal Quality Assurance Cell (IQAC) was held on 07.12.2024 at 2.30 pm in Conference Hall - 2.

The agenda for the meeting is given below:

1. Review of the outcomes observed for the previous meeting agenda.
2. Preparation and submission of the Annual Quality Assurance Report (AQAR) for the AY 2023-24 as per the NAAC guidelines.
3. Review of structured feedback action plan and suggestions for shortcomings.
4. Action Plan on External Auditors comments / suggestions.
5. Preparedness of contents for the 3rd year Engineering Program syllabus under Autonomous scheme.
6. Re-looking at the chosen skill enhancement courses.
7. Review of preparation for the NBA expert team for the verification of the compliance report of the Mechatronics Engineering program.
8. Any other matter with the permission of the chair.

Dr Vinayambika S Bhat, Dean of Quality Assurance and Convener - IQAC, welcomed the members of IQAC constituted for the Academic 2024-25.

The following members were present during the meeting:

Name	Representation	
Dr Prashanth C M	Principal	Chairperson
Dr Vinayambika S Bhat	Dean Quality Assurance, Professor & HoD - Electronics	Convener
Mr Shiva Prakash Rao	Local Society	External Member
Dr Mohan Kumar Naik	Professor & HoD – Mechatronics	Special Invitee
Dr Anand S N	Professor & HoD - Aeronautical Engineering	Internal Members
Dr K G Madhwaraj	Professor & HoD - MCA	
Dr Ravinarayana B	Professor & HoD - Computer Science & Engineering	
Mr Narendra U P	Director Placements, Training & Industrial Relations	
Dr Shreekanth G Naik	Associate Professor, Dept of Management Studies	
Mr Avinash N J	Assistant Professor, Dept. of Electronics & Communication Engineering	
Mr Mohammed Patni Azzan	Director, PACE Wisdom Solutions Pvt. Ltd. Mangaluru. [2011 Graduate-Alumni]	Alumni Member
Mr Prabal Raj	4th year, Dept. of Electronics & Communication Engineering [USN:4MT21EC062]	Student Member

Following are the outcomes of the meeting:

Agenda 1: Review of outcomes from the previous meeting

MATLAB / Simulink Campus-Wide License: The MATLAB / Simulink Campus-Wide License offers transformative opportunities for both faculty and students by providing access to advanced computational tools widely used in academia and industry. This initiative facilitates cutting-edge research, dynamic teaching methods, and skill development by enabling faculty to incorporate MATLAB into their research and pedagogy, while students benefit through certifications, workshops, and hands- on projects. Enhanced with workshops and Faculty Development Programs (FDPs), the license fosters interdisciplinary learning and innovation, preparing graduates for industry challenges and promoting collaboration. Its integration into the autonomous curriculum further emphasizes its role in advancing technical proficiency and fostering a culture of continuous improvement within the institution.

The convener briefed on the Memorandum of Understanding (MoU) with MathWorks and CoreEL Technologies, emphasizing the advanced MATLAB tools that benefit both faculty and students. While students have been actively utilizing MATLAB for certifications, the Convener urged faculty to leverage it further for research and teaching.

Student member Prabal Raj shared advantages of MATLAB workshops conducted under the IEEE Student Chapter, showcasing student engagement and learning outcomes.

Mr Shiva Prakash proposed, integrating MATLAB in the new autonomous scheme as a skill enhancement course. The Principal highlighted ongoing workshops and Faculty Development Programs (FDPs) that enhance MATLAB proficiency, leading some departments to introduce MATLAB-based courses.

Recommendations / Suggestions

Members decided to form a core team comprising departmental and college-level coordinators to promote MATLAB utilization and knowledge sharing.

Indo-Universal Collaboration for Engineering Education (IUCEE): The IUCEE is a global network aimed at transforming engineering education by fostering collaboration among institutions, faculty, and students globally. Its mission is to promote quality education, research, and innovation through partnerships, training programs, and resources that align with global best practices. It serves as a catalyst for enhancing teaching and learning process, introducing innovative pedagogy. The flagship program "Training the Trainers", equips faculty with modern teaching techniques, ensuring they deliver a high- quality learning experience. This collaboration empowers educators, enriches the academic ecosystem, and prepares students for the demands of a globalized industry, elevating the institution's academic standards and reputation. The Convener discussed the MoU with IUCEE, emphasizing its contribution to teaching- learning process, particularly through NEP mini-courses and modern pedagogy. The students and faculty participation in various activities by IUCEE was presented. The members appreciated the effort and unanimously agreed to continue the collaboration.

IQAC - Policy & Recommendations

Overview of Certification Policy The convener briefed on the existing IQAC policy, which mandates that all staff to complete at least one SWAYAM-NPTEL certification course (either 8-week or 12-week duration).

Convener also presented department-wise statistics of certification by the faculty members, technical staffs, and students for the AY 2023-24. The members of IQAC emphasized on enhancing the certification completion rate for competitive quality education.

Recommendations / Suggestions

The members deliberated on strategies to encourage greater participation in certification courses and suggested the following measures:

Appraisal Weightage: Increase the weightage of certification completion in the faculty appraisal process to incontinence participation.

Aligned Opportunities: Allow faculty to select certification courses and research projects aligned with their areas of interest, promoting engagement and relevance.

Workload Monitoring: Introduce a timestamp-based system to monitor and balance faculty workloads, ensuring adequate time is available for professional development activities.

Recognition and Publicity: Recognize faculty achievements in certifications and quality research publications by showcasing them on the institution's official social media channels, fostering motivation and peer acknowledgment.

Student project outcomes to publish in peer reviewed quality Journal / Conference publication. This is very much useful to the students in campus recruitment's as well when they are applying for their higher education.

Agenda 2: Preparation and submission of Annual Quality Assurance Report (AQAR)

The AQAR, as mandated by the National Assessment and Accreditation Council (NAAC), is a critical document that reflects the institution's progress in achieving quality benchmarks in education. It serves as a self-reviewed annual report detailing the institution's initiatives, achievements, and compliance with NAAC's quality criteria across various aspects, such as teaching, learning, research, infrastructure, and governance. Every year AQAR must be submitted as per the prescribed format. The convener outlined the status and gaps in AQAR preparation as per NAAC guidelines. The Principal set a deadline of December 30, 2024, for criteria in-charges to upload the required documents.

Agenda 3: Review of structured feedback action plan and suggestions for Shortcomings

The feedback analysis is a pivotal exercise in ensuring the continuous improvement of academic and administrative practices within the institution. This process involves analyzing feedback from key stakeholders, including students, faculty, alumni, and employers, to identify strengths and areas for enhancement. By systematically reviewing the implementation of action points, the institution ensures that stakeholder concerns are addressed effectively, leading to improved teaching methodologies, curriculum relevance, and overall learning experiences. The committee reviewed the action plan and expressed satisfaction with the progress made.

Agenda 4: Action Plan on External Auditors' Comments

The External Audit for autonomous engineering colleges, as per the UGC (University Grants Commission) and VTU (Visvesvaraya Technological University) guidelines, is a critical evaluation process designed to uphold the quality standards and operational effectiveness of autonomous institutions. This audit eencompasses a review of curriculum development, teaching-learning methodologies, research contributions, infrastructure adequacy, and governance practices. Giving high priority to the vision of the institution, “To attain perfection in providing Globally Competitive Quality Education”, IQAC external audit team comprising 4 external auditors and Associate Dean Academics as an convener was formed to perform the audit. The suggestions provided by the team during the audit held on 13th & 14th, September 2024, were presented during the meeting.

Recommendations / Suggestions

It has been decided by the members to take up necessary action on the suggestions received by the external audit team to initiate plan of execution in Academic Committee and Examination Committee (as applicable).

Agenda 5: Syllabus preparation for the 3rd year Engineering Program (Autonomous Scheme)

The syllabus preparation is a key for academic excellence, particularly for autonomous engineering colleges, as it defines the foundation of knowledge and skills imparted to the students. Guided by the institution's academic goals and regulatory frameworks, this process involves designing a curriculum that is industry-relevant, aligned with global standards, and adaptable to emerging technologies and trends. IQAC members emphasized finalizing the draft syllabus by March 31, 2025.

Agenda 6: Re-looking at the chosen skill enhancement courses

Skill enhancement courses plays major role to build a collaboration between academic learning and industry requirements, equipping students with practical skills and competencies needed in the professional world. These courses focus on fostering technical expertise, problem-solving abilities, and interpersonal skills that complement core academic subjects. Regularly reviewing and updating these courses ensures that students develop a strong knowledge base and are prepared for advanced learning. A detailed review of courses revealed no major changes, except for the CSE & allied programs, highlighting the incorporation of Python basics before Data Visualization to ensure foundational understanding.

Recommendations / Suggestions

CSE & Allied Branch to revisit the chosen skill enhancement courses in BoS Meeting.

Agenda 7: Review of preparation for the NBA expert team for the verification of the compliance report of the Mechatronics Engineering program

The compliance report submission to National Board of Accreditation (NBA) by the program is a crucial step to demonstrate institute adherence to the quality standards. This report evaluates the programs on parameters such as curriculum design, teaching-learning process, faculty credentials, Infrastructure, student outcome, and industry collaboration. Dr. Mohan Kumar Naik, Head of the

Department, Mechatronics Engineering presented compliance report progress. It has been decided to submit the final compliance report to NBA by December 15, 2024.

Agenda 8: Any other matter with the permission of the chair

To enhance the quality of teaching and learning at the institute, the Principal proposed that faculty members across all levels (Professors, Associate Professors, and Assistant Professors) undergo comprehensive training. The goal is to train at least 80% of the faculty through Faculty Development Programs (FDPs) to adopt innovative pedagogical methods that align with modern educational practices.

Highlighting the gap in coding proficiency among students across all the branches, Mr. Shivaprakash Rao suggested, to train the students on coding from the first year to build a strong foundation. He also recommended that faculty must acquire basic coding knowledge to guide the students across all disciplines.

Mr. Rao observed a lack of logical reasoning and problem-solving abilities during boot camps. He emphasized the need for structured practice by the students in these areas to improve critical thinking capabilities.

While preparing the 7th semester syllabus for elective subjects under the autonomous scheme, Mr Rao proposed adding courses such as Digital Commerce, E-Commerce, or Fundamentals of E-Commerce for Computer Science & Engineering (CSE) and allied branches. These courses would provide students with valuable knowledge and skills to understand the practical applications of E-Commerce in business operations.

Mr. Rao highlighted the importance of an iterative process in education, starting with Content Creation, followed by Effective Delivery, and concluding with Continuous Improvement through regular evaluation and feedback.

The convener suggested implementing a digital-based appraisal system using Contineo Software. This system would allow for long-term data maintenance and live monitoring of faculty performance. The transparency and accessibility of statistics would help identify areas for improvement and provide actionable insights to enhance faculty performance.

Mr Azzan expressed concern over students' interaction skills, particularly in professional settings. He suggested to conduct targeted training programs to improve communication and interpersonal skills. In order to strengthen academia and industry interaction through structured initiatives, enabling students to understand their career aspirations and meet industry requirements independently.

Mr Prabal emphasized the importance of strengthening LinkedIn and GitHub profiles to improve students' employability. He suggested that faculty mentors to guide students in developing and maintaining these profiles. He also suggested to organize internal interviews, including HR rounds, to help students refine their soft skills and prepare for real-world recruitment process.

The Principal proposed leveraging the expertise of distinguished alumni to facilitate skill-building initiatives, industry connections, and career guidance for students.

Recommendations / Suggestions

It has been recommended to organize Faculty Development Programs (FDPs) to adopt innovative pedagogical methods that align with modern educational practices.

After a fruitful discussion, the meeting ended with the gratitude rendered by Convener – IQAC to all members for the active participation and useful suggestions provided.

Composition of Internal Quality Assurance Cell (IQAC) - External Audit Committee

The constitution of the IQAC external audit peer team is as follows:

Sl. No.	Name	Designation & Affiliation	Role
1	Dr. Chandrasekaran K	Professor Department of Computer Science & Engineering, NITK. Surathkal, Mangalore	Members
2	Dr. L. D. Dhinesh Babu	Professor and Associate Dean School of Computer Science Engineering and Information Systems Vellore Institute of Technology, Vellore	
3	Dr. Shivashankar R. Srivatsa	Associate Professor Department of Mechanical Engineering, B.M.S College of Engineering, Bengaluru	
4	Dr. Shylashree N	Associate Professor Department of Electronics & Communication Engineering, R.V.College of Engineering, Bengaluru	

The following three members have been nominated by VTU for the IQAC peer team. The details of the members are as follows.

Sl. No.	Name	Designation & Affiliation	Role
1	Dr. Y. Vijaya Kumara	Principal, JNNC College of Engineering, Savlanga Rd, Navule, Shivamogga, Karnataka	Members
2	Dr. Vijayakumar B P	Professor, Department of Information Science & Engineering, M.S. Ramaiah Institute of Technology, Bengaluru	
3	Dr. Rashmi R Rachh	Associate Professor, Department of Computer Science & Engineering, Visvesvaraya Technological University, Belagavi	

SUMMARY OF THE IQAC EXTERNAL AUDIT REPORT

The External Audit was conducted on 13th & 14th September 2024. The Observations and Recommendations for Improvement by External Audit is listed below:

1. Observations:

- In most of the activities, the team has observed very good practices, as a whole.
- In particular to Teaching – Learning, Infrastructure in the lab and overall campus ambience are very good.
- In order to realize 'Continuous Improvement' some important measures are:
  - Faculty publication via suitable research
  - Students' pass percentage
  - Placement & Internships for students
  - Faculty & Students - a 'continued' work in multidisciplinary domains

  Above mentioned points are to be strengthened.
- Industry - Institute collaborative activities including research & publication (also with other good institution) can be brought out.
- Incubation centre could be a stepping stone for bright students to collaborate with; which also can serve as 'internship' points for weak students to strengthen their learning /subjects of specific domains.
- The institution has adapted good academic and TLP practices.
- Faculty for the programme are qualified and well experienced.
- Good quality laboratory facilities, infrastructure and student support systems are in place.
- Feedback is collected from stakeholders at various stages.
- There has been good support in terms of finance & encouragement in terms of incentives from the management.
- Research, Industry collaborations and curriculum development needs improvement.

2. Suggestions/Comments/ Recommendations for Improvement:

- Measures for quality research & publication by faculty.
- Project work (result of) of students (final year) - could be in reputed conferences (IEEE / Springer / Elsevier); not in 'some useless' Journals.
- Collaborative efforts are necessary in conversion of Project proposals to funded projects.
- More focus and quality research work is emphasized in producing quality research publications.
- Number of activities under professional bodies and MOUs require improvement.
- Documentation of action taken on the feedback and improvements thereon is to be tracked.

3. Conclusions:

- Most of the points are supportive to the 'systemic' improvement as the management and faculty are good.
- A few weak points (as said in suggestion, particularly) could be 'brain stormed' for mutual benefits.
- The Institution is performing well with good administrative, academic and management practices.
- Thrust on Research and Industry-collaborative activities is to be increased.
- Monitoring, Assessment and continuous improvement through attainment & feedback need attention.

ACTIVITIES ORGANIZED BY IQAC DURING AY 2024-25

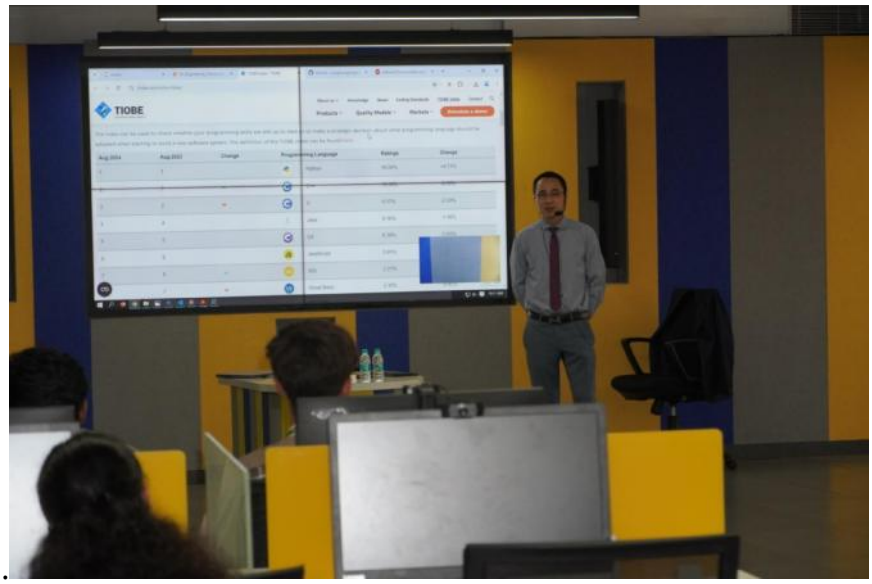
A good number of activities were organized by the IQAC for the AY 2024-25. The details are as follows:

Activity No.	Particulars	Date
1	Short-Term Course on Future of Mobility: Emerging Technologies in Autonomous Vehicles.	02/09/2024 to 04/09/2024
2	Faculty Induction and Orientation Program on "Fostering Academic Excellence and Professional Development".	28/10/2024 to 29/10/2024
3	Workshop on Mechatronics Product Design: An Approach towards Qualitative Design Methodology	07/11/2024 to 08/11/2024
4	Workshop on "Introduction to Finite Element Method Workflows and Applications using MATLAB and Simulink"	22/11/2024 to 23/11/2024
5	Session on "Advanced Observability of Low-Level Data in Critical Infrastructure – Challenges and Opportunities"	02/12/2024
6	Workshop on Electric Vehicle Development using Model Based Design	13/12/2024 to 14/12/2024
7	Workshop on Application of MATLAB in Aeronautical Engineering	19/12/2025 to 20/12/2025
8	Faculty Development Program (FDP) on "Pedagogical Approaches to Innovative Teaching	11/01/2025 to 13/01/2025, 08/02/2025, 22/02/2025, 12/04/2025, 10/05/2025
9	Workshop on "Energy Audit for Energy Conservation"	29/03/2025
10	Workshop on "Contemporary Solutions for Transformative Electric Vehicle System Architecture"	23/04/2025 to 24/04/2025

Activity No.	Particulars	Date
11	Faculty Development Program on “Statistical Process Design using R & Python: Transforming Data to Decisions through Hands-on Learning”	08/05/2025 to 12/05/2025
12	Workshop on “Prototype Development of Control Circuits for Electric Drive Systems"	19/05/2025 to 20/05/2025
13	Faculty Development Program on “SYSTEMS ENGINEERING”	18/06/2025 to 22/06/2025

1. Short-Term Course on Future of Mobility: Emerging Technologies in Autonomous Vehicles

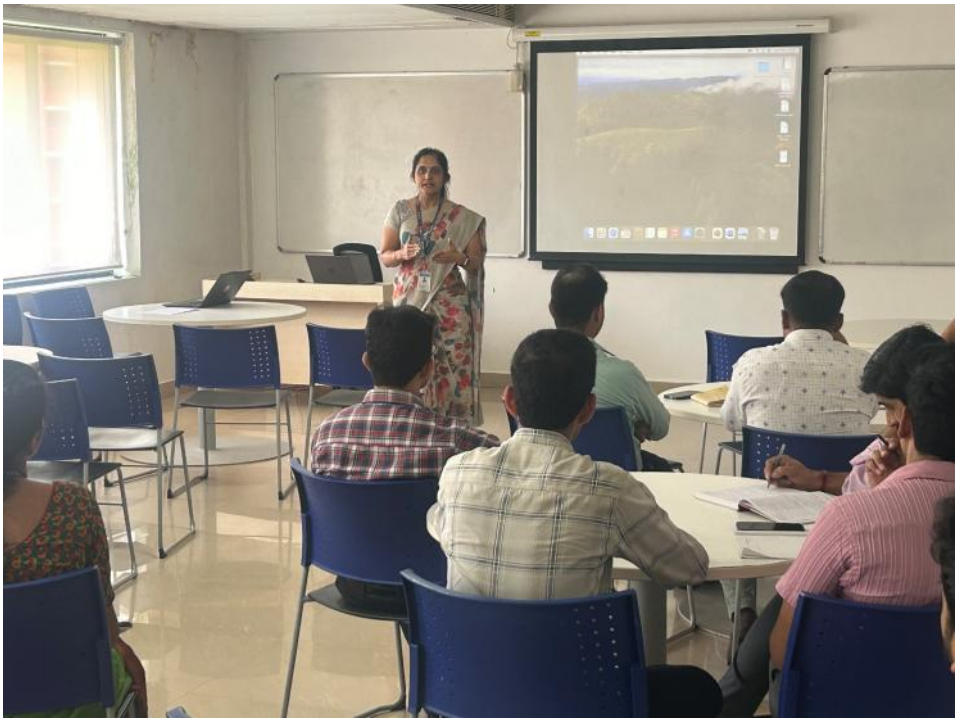
The Internal Quality Assurance Cell (IQAC) of MITE, in collaboration with Binghamton University, New York, organized a Short-Term Course on "**Innovations & Inventions on Autonomous Vehicles"** from 2–4 September 2024. The program covered AI integration in autonomous systems; sensor technologies-LIDAR, RADAR, Ultrasonic, monocular/stereo/infrared cameras; and sensor-fusion methods. Participants completed hands-on programming tutorials in a dedicated lab on detecting and tracking road users and objects, lane detection, and lane-line identification and testing. 14 faculty members and 83 students from multiple departments participated actively. Sessions were led by Dr. Yong Wang, PhD, Associate School Chair, Systems Science and Industrial Engineering, Binghamton University USA.



The snapshot of the A Short-Term Course on Future of Mobility: Emerging Technologies in Autonomous Vehicles

2. Faculty Induction and Orientation Program on "Fostering Academic Excellence and Professional Development"

The Faculty Induction and Orientation Program on **"Fostering Academic Excellence and Professional Development"** was organized at the MITE Teaching and Learning Centre (TLC) on October 28–29, 2024. The program introduced faculty members to institutional policies, academic frameworks, and support mechanisms for professional growth. Sessions covered service policies and ethics by Dr. Rajashekar C R, Outcome-Based Education by Dr. Terence Johnson, research and collaboration by Dr. Pradeep B S, academic quality and accreditation by Dr. Vinayambika S Bhat, career readiness initiatives by Mr. Narendra U P , Dr. Sathisha detailed fair and transparent assessment frameworks, and Dr. Ramalingam emphasized the importance of IPR and patent support for protecting and promoting faculty research and innovation. Active participation was recorded from twenty-six faculty members belonging to different departments.



The snapshot of the FDP on Fostering Academic Excellence and Professional Development"

3. Workshop on Mechatronics Product Design: An Approach towards Qualitative Design Methodology.

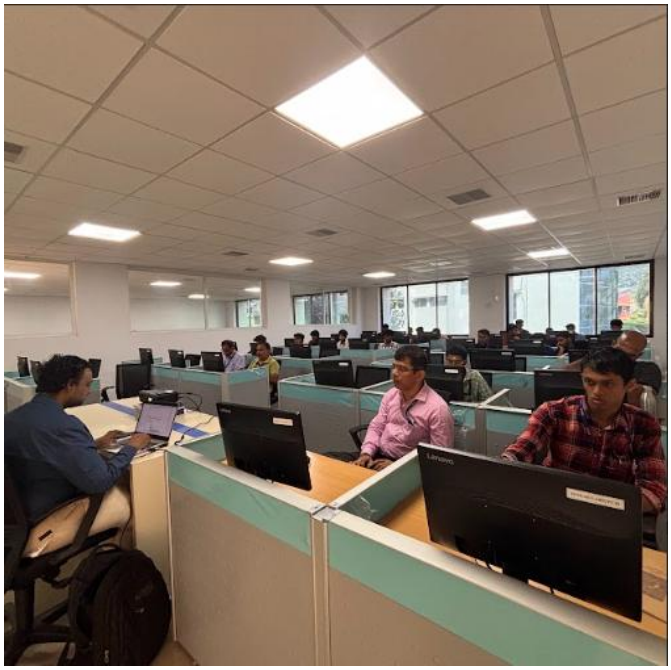
A workshop on **"Mechatronics Product Design: An Approach towards Qualitative Design Methodology"** was organized from November 7–8, 2024, in association with the Department of Mechatronics. The sessions were conducted by Mr. Jishnu Mulachan, Technical Director at Zilliot Technologies Pvt. Ltd., Mangalore, and an experienced professional in mechatronics engineering. His presentation provided a comprehensive overview of qualitative design methodology, emphasizing user needs, iterative refinement, and quality assurance. He also demonstrated the integration of LTSpice and KiCad for simulation, circuit optimization, and PCB design. These tools, combined with a user-centered approach, enable the development of reliable, high-quality mechatronic products.There were 43 took part in the workshop, which aimed to acquaint them with the theoretical concepts and practical applications of Mechatronics Product Design.

The snapshot of workshop on "Mechatronics Product Design: An Approach towards Qualitative Design Methodology".

4. Workshop on "Introduction to Finite Element Method Workflows and Applications using MATLAB and Simulink"

A Workshop on **"Introduction to Finite Element Method Workflows and Applications using MATLAB and Simulink"** was held at the Analysis & Simulation Laboratory of MITE on 22nd and 23rd of November 2024. The workshop provided a comprehensive understanding of analysis and modeling of physical systems in MATLAB. The sessions were focused on framing ordinary differential equations and partial differential equations for a physical system and simulating the system behavior under variable input parameters. MATLAB, Simulink and Simscape modules were illustrated with examples.

The workshop, facilitated by Mr. Rakshith B. S., Senior Application Engineer for MathWorks products at CoreEL Technologies, Bengaluru, enriched 26 students with theoretical understanding and hands-on learning. The outcome of the workshop is to make participants familiar with the theory and practical aspects of Finite Element Method Workflows and Applications using MATLAB and Simulink.

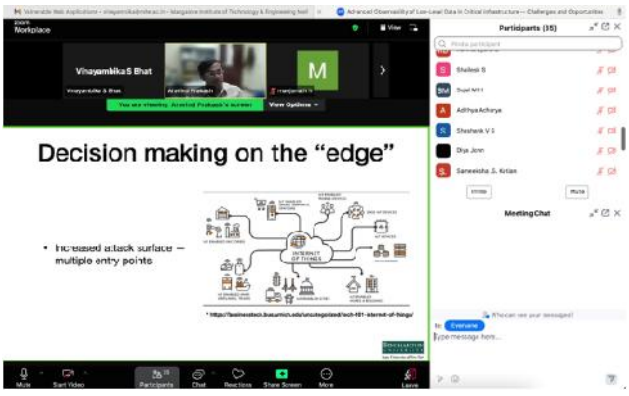


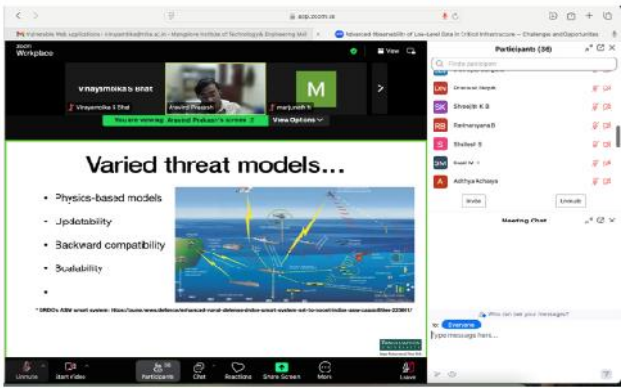
A snapshot from the workshop on "Introduction to Finite Element Method Workflows and Applications using MATLAB and Simulink"

5. Session on "Advanced Observability of Low-Level Data in Critical Infrastructure – Challenges and Opportunities"

A Session on "**Advanced Observability of Low-Level Data in Critical Infrastructure – Challenges and Opportunities"** organized by Department of Commuter Science Engineering in association with MITE-IQAC on 02/12/2024 by Dr Aravind Prakash is an associate professor in the Department of Computer Science at Binghamton University State University of New York (SUNY).

Dr. Aravind Prakash began the session by addressing the issue of low-level data analytics in AOTs and the significant challenges in bridging the semantic gap between intra-program and network-wide events. He emphasized that overcoming this gap is crucial for effective system-wide triage. The session covered key topics such as an introduction to critical infrastructure, the role and challenges of low-level data observability, and emerging solutions. Through case studies, Dr. Prakash highlighted real-world applications. He concluded by underscoring the importance of interdisciplinary collaboration and innovation to tackle observability challenges and to develop secure, robust, and resilient infrastructure systems.





Glimpse of the Presentation by Dr Aravind Prakash

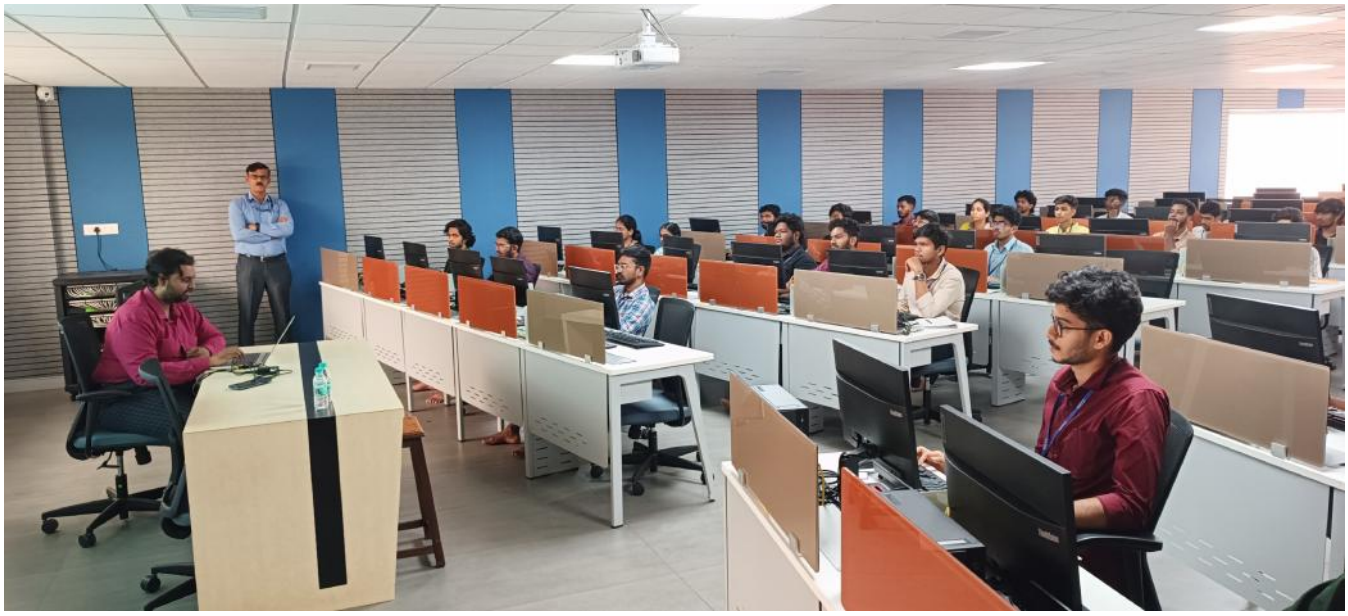
6. Workshop on Electric Vehicle Development using Model Based Design

The Internal Quality Assurance Cell (IQAC), MITE, in association with MathWorks and CoreEL Technologies, Bengaluru, organized a workshop on **"Electric Vehicle Development Using Model-Based Design"** from December 13–14, 2024. The sessions provided an in-depth understanding of Model-Based Design, system modeling paradigms, and dynamic system modeling with emphasis on physical systems. Key topics included electric vehicle (EV) architecture, motor modeling, DC motor speed control, and power electronics. The importance of vehicle body design and EV reference applications was also highlighted. A total of two faculty members and twenty-five students from various departments actively engaged in hands-on lab sessions led by Dr. Riyaz A. Rahiman, Senior Application Engineer, CoreEL Technologies.

The snapshot of Dr. Riyaz A Rahiman on Electric Vehicle Development using Model Based Design

7. Workshop on "Applications of MATLAB in Aeronautical Engineering".

The Department of Aeronautical Engineering organized a three-day workshop on **"Applications of MATLAB in Aeronautical Engineering"** from December 19–21, 2024, designed to bridge theoretical foundations with practical applications. The program explored MATLAB's extensive capabilities in aerodynamics, structural analysis, and flight dynamics through expert lectures, interactive sessions, and immersive hands-on training. Mr. Rakshith B. S., Senior Application Engineer, MATLAB, CoreEL Technologies Pvt. Ltd., Bengaluru, served as the resource person, delivering deep insights that enriched the learning experience. A total of fifty students benefitted, gaining not only enhanced technical skills but also the motivation to pursue innovation and research in aeronautical engineering.



The snapshot of Mr. Rakshith B S addressing on "Applications of MATLAB in Aeronautical Engineering"

8. Faculty Development Program (FDP) on "Pedagogical Approaches to Innovative Teaching"

The Faculty Development Program (FDP) on **"Pedagogical Approaches to Innovative Teaching"** was conducted on 11th–13th January 2025, 8th February 2025, 22nd February 2025, 12th April 2025, and 10th May 2025, benefiting a total of 82 faculty members from the institute. The program focused on learner-centered pedagogies such as flipped classrooms, blended learning, and experiential approaches to enhance teaching effectiveness and student engagement. Dr. Dattakumar provided practical illustrations of applying these techniques across disciplines, highlighting the importance of debriefing and reflection in experiential learning. The FDP outcomes included practical application focus, innovative methods, understanding today's students, community growth, and improved student learning.

The snapshot of Dr. Dattakumar addressing to the participates on "Pedagogical Approaches to Innovative Teaching"

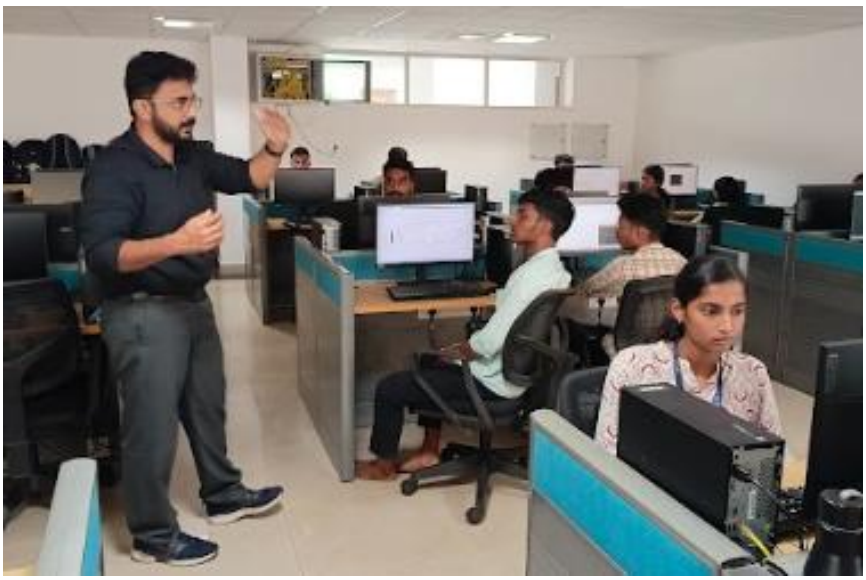
9. Workshop on "Energy Audit for Energy Conservation"

The Department of Mechanical Engineering organized a Workshop on **"Energy Audit for Energy Conservation"** on 29th March 2025, with the aim of promoting energy efficiency and sustainable practices. The workshop combined awareness campaigns, data-driven analysis, and practical demonstrations to highlight methods of reducing energy consumption. Participants gained hands-on experience using watt meters, ammeters, and multimeters to measure appliance power usage and explored energy-saving practices such as LED adoption and unplugging idle devices. Guided by Mr. Yuvraj, sessions covered load balancing, power factor correction, and institutional strategies like motion-sensor lighting. A total of 24 students from the 4th and 6th semesters actively participated.

The snapshot of Mr Yuvraj addressing to the participates on "Energy Audit for Energy Conservation"

10. Workshop on "Contemporary Solutions for Transformative Electric Vehicle System Architecture"

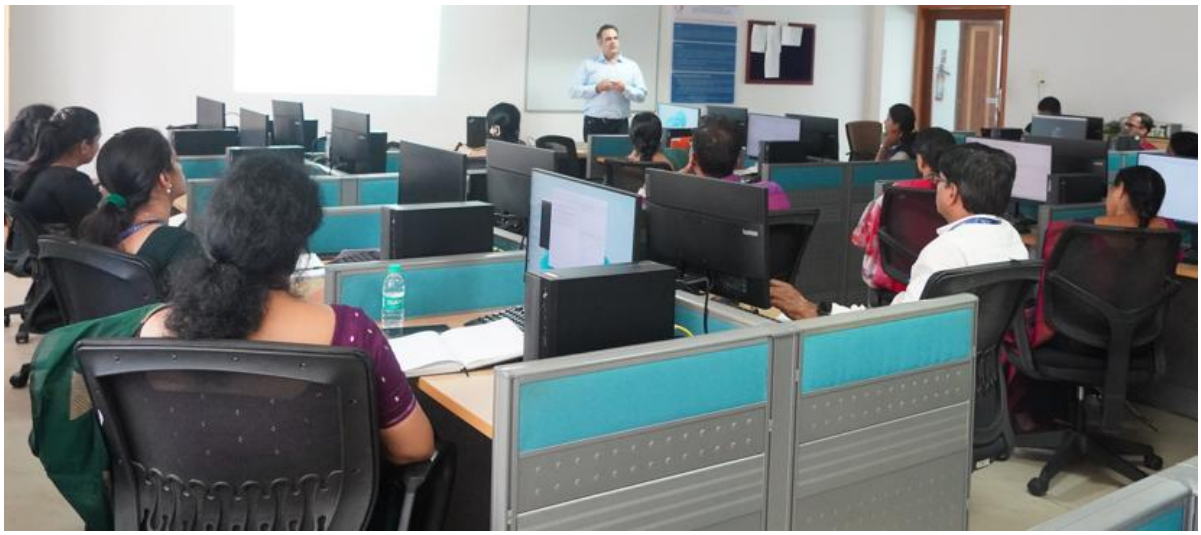
The Internal Quality Assurance Cell (IQAC), MITE, in association with MathWorks and CoreEL Technologies, Bengaluru, organized a workshop on **"Electric Vehicle Development Using Model-Based Design"** from 23rd–24th April 2025. The sessions offered in-depth insights into system modeling paradigms, dynamic system modeling, and the fundamentals of electric vehicle (EV) architecture, including motor modeling, DC motor speed control, and power electronics. Participants also explored vehicle body design and EV reference applications, enhancing their practical learning. Two faculty members and twenty-five students from various departments engaged in hands-on sessions in a dedicated lab. The workshop outcomes included understanding innovative EV platforms, breakthrough systems, and future-focused mobility solutions, guided by Dr. Riyaz A. Rahiman, Senior Application Engineer, CoreEL Technologies



The snapshot of Dr. Riyaz A Rahiman on "Contemporary Solutions for Transformative Electric Vehicle System Architecture"

11. Faculty Development Program on "Statistical Process Design using R & Python: Transforming Data to Decisions through Hands-on Learning"

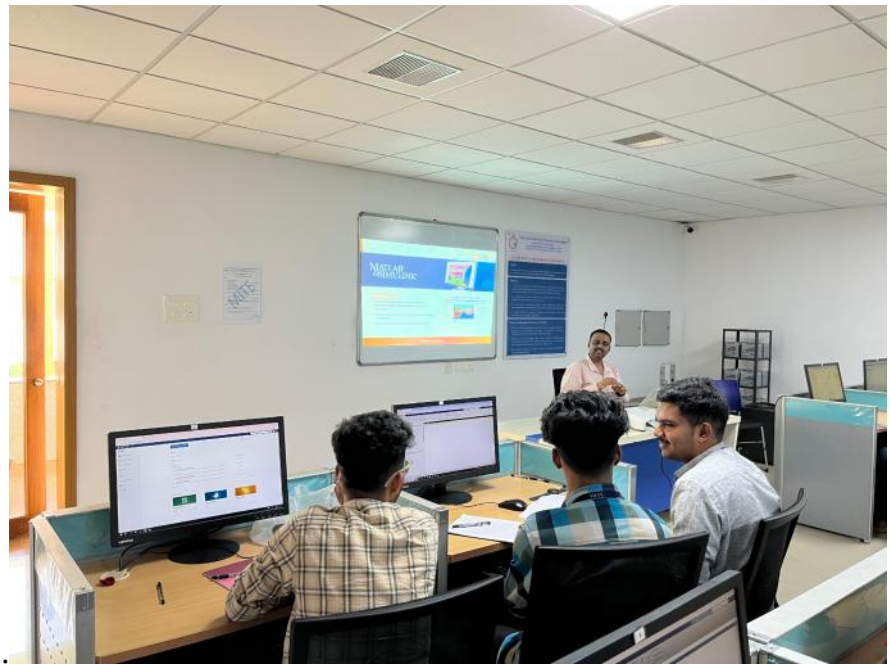
The Department of Mathematics, in association with the Internal Quality Assurance Cell (IQAC), organized a Faculty Development Program (FDP) on **"Statistical Process Design using R & Python: Transforming Data to Decisions through Hands-on Learning"** from 8th–12th May 2025. The FDP emphasized practical applications of statistical techniques to bridge data analysis with decision-making. Dr. Sai Shyam and Mr. D. Bhanu Prakash from Sri Sathya Sai Institute of Higher Learning conducted sessions on descriptive and inferential statistics, probability distributions, stochastic processes, and linear algebra foundations. Advanced topics such as PCA, Factor Analysis, and Cluster Analysis were also covered. Thirty-six faculty members benefited, gaining valuable expertise in applying data-driven methodologies to academic and research contexts.



The snapshot of FDP on "Statistical Process Design using R & Python: Transforming Data to Decisions through Hands-on Learning"

12. Workshop on "Prototype Development of Control Circuits for Electric Drive Systems"

The Department of Mechatronics, in association with MathWorks, CoreEL Technologies, Bengaluru, and MITE-IQAC, organized a workshop on **"Prototype Development of Control Circuits for Electric Drive Systems"** from 19th–20th May 2025. Conducted by Mr. Rakshith B. S., Senior Application Engineer at CoreEL Technologies, the two-day program focused on system modeling, control systems, and hardware integration using MATLAB and Simulink. Sessions included Live Scripts, dynamic system simulation, and modeling of DC and BLDC motors with mathematical and physical approaches through Simscape. Participants practiced PID control, controller tuning, and Arduino-based hardware integration for real-time sensor and actuator control. Thirty-nine students actively participated, gaining valuable hands-on experience bridging theory and real-world applications.



The snapshot of workshop on "Prototype Development of Control Circuits for Electric Drive Systems"

13. Faculty Development Program on "SYSTEMS ENGINEERING"

The Department of Mechanical Engineering, in association with IQAC, organized a Faculty Development Program (FDP) on **"Systems Engineering"** from June 18–22, 2025. Designed to enhance academic professionals' capabilities in managing technological complexity and interdisciplinary challenges, the FDP focused on the design, development, and management of complex systems in sectors such as aerospace, defense, software, and infrastructure. Sessions were conducted by industry experts, including Dr. Ranga Srinivas Gunti (TATA Motors), Dr. Debanand Singdeo and Gaurav Dubey (MathWorks), Dr. Riyaz A. Rahiman (CoreEL Technologies), and Mr. Mudit Mithal. The program effectively bridged theory and practice, benefiting 23 faculty members with advanced methodologies and comprehensive insights into systems engineering.

A snapshot of Gaurav Dubey during the FDP on "Systems Engineering"