

MExpress

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Mechanical Engineering Department's Official Newsletter

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Wish you a very Happy New Year – 2025!



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da.mec@kct.ac.in



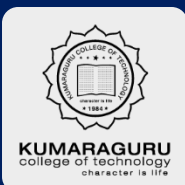
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Mechanical Engineering Association

Department of Mechanical Engineering

KUMARAGURU COLLEGE OF TECHNOLOGY



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From the Editors...

Dear Readers,

It gives us immense pride and joy to present this month's issue of our departmental newsletter, a reflection of the remarkable achievements and relentless efforts of our faculty, students, and stakeholders. This milestone edition captures the vibrant academic, research, and extracurricular activities that define our department's journey toward excellence.

Our department has organized impactful programs that foster knowledge sharing and skill development while our faculty continue to contribute as resource persons, sharing their expertise at esteemed forums. Their scholarly engagements are showcased through paper presentations, publications, and meticulous reviews of manuscripts for reputed journals. We also celebrate the granting of patents, highlighting the innovative spirit that drives our research endeavors.

The participation of our faculty in national and international programs underscores their commitment to professional growth, while the success of the Industry-Academia Conclave 2024 further strengthens our ties with industry and academia, paving the way for collaborative opportunities.

Our students have demonstrated exemplary enthusiasm and talent in various academic and extracurricular activities, contributing to the vibrant ecosystem of our department. Their accomplishments serve as a source of inspiration and pride for the entire community.

As we celebrate these milestones, we express our heartfelt gratitude to everyone who contributed to the success of this newsletter. Your support and dedication have been invaluable, and we look forward to many more collaborative achievements in the future.

Warm regards,

Editors....



PROGRAMMES ORGANIZED



Department organized an **Industry-Academia Conclave 2024** themed on “Engineering the Future: Smart, Green, and Artificial Intelligence Driven” on 27-12-2024. **Dr. Rajkumar Swaminathan**, President of Rane Engine Valve Limited, **Wing Commander P. Madhusoodhan**, Director of TANCAM, **Mr. Rajiv Aramadaka**, Global Affairs Director for Public Sector at Dassault Systèmes were the guest speakers. Detailed report is provided at the end of the newsletter. The conclave was coordinated by **Dr. C. Velmurugan**, Professor and Head, **Dr. V. R. Muruganantham**, Associate Professor, **Mr. R. S. Mohankumar**, Assistant Professor – II, **Dr. A. P. Arun**, Assistant Professor – III and **Dr. K. Krishnamoorthi**, Assistant Professor – III.



Career Development Programme on “**Empowering Women in Product Design and Development: Opportunities and Pathways**” was organized. **Ms. Venu Priya S V** and **Ms. Prakathi D** from Capgemini were the resource persons. **Dr. M. A. Vinayaga Moorthi**, Assistant Professor – III coordinated the programme.

Departmental Activities

INVESTITURE CEREMONY OF MECHANICAL ENGINEERING ASSOCIATION

Investiture Ceremony of Mechanical Engineering Association and a Guest Lecture was organised on 18-12-2024. During the ceremony, office bearers were formally inducted for the academic year, fostering leadership and innovation.



Departmental Activities



Highlights included a guest lecture on Advanced Air Mobility, addressing futuristic aviation concepts, and ceremonial badge distribution, promoting recognition and accountability. Guest lecture was delivered by **Mr. Ibrahim Mohideen**, Engineer Fellow, Aerospace Technologies, Caterpillar. Other guests were Real Admiral VM Doss AVSM VSM (Retd), Director at KC.IRI – Defence Programs and Mr. P. S. Prem Kumar, Associate Professor – Aeronautical Engineering & Technical Manager – KC.IRI. Faculty and guest speakers emphasized student development, while participants gained valuable insights and leadership skills. The well-planned event, praised for its flawless execution, marked a successful start to MEA's activities, empowering students for growth and excellence.

FACULTY RECOGNITION



Dr. K. K. Arun, Assistant Professor – III contributed as a reviewer in the peer review process of Flex Sensor-based Prosthetic Robotic Hand, submitted to the Mechanical Engineering International Conference (MEICON 1.0) organized by School of engineering, Department of Mechanical Engineering, OP Jindal University, Raigarh, India, December 19th to 20th, 2024.

FACULTY AS RESOURCE PERSONS

Dr. B. N. Sreeharan, Assistant Professor – III, acted as a resource person and delivered a lecture on “Power BI Webinar: Gateway to Data Mastery” organized by Sakthi Excellence Academy on 21-12-2024.



PAPER PRESENTATIONS



Dr. K. K. Arun, Assistant Professor – III, presented his paper entitled “Enhancing Sustainable Agriculture through smart Architecture: An Adaptive Neuro - Fuzzy inference system with XGBoost model” in the Fifth International Conference on Sustainable Communication Networks and Application, Bharath Niketan Engineering College conducted during 11-12-2024 and 13-12-2024

Dr. N. Sangeetha, Senior Associate Professor, presented her paper entitled “Impact Strength Measurement Rig for Construction Materials: Using ASTM F3007-13 Standard” in the Fourth International Conference on Future Technologies in Manufacturing, Automation, Design and Energy National Institute of Technology Puducherry, Karaikal conducted during 11-12-2024 and 13-12-2024.



Dr. S. Thirumurugaveerakumar, Associate Professor, presented his paper entitled “Effect of Amperage Creep on Aluminium Composite Busbar” in the Sixth International Conference on Innovative Product Design and Intelligent Manufacturing Systems, National Institute of Technology Rourkela during 04-12-2024 and 05-12-2024.

Dr. V. Manivelmuralidharan, Assistant Professor – III, presented his paper entitled “Comparative Study of High Speed Steel and Carbide Tool in Drilling Process on Aluminium Alloy 6061 using Grey Relational Approach”, in the Mechanical Engineering Conference, organized by the Department of Mechanical Engineering, O. P. Jindal University, Raigarh, India, during December 19-20, 2024.



PAPER PUBLICATIONS

Dr. K. K. Arun, Assistant Professor – III, published his paper entitled "Role of Heat Treatment in Enhancing Microstructure and Properties of Inconel 625 Manufactured by Directed Energy Deposition using Wire Arc" in the International Journal of Alloys and Metallurgical Systems, a Scopus indexed journal.



Dr. B. N. Sreeharan, published a paper entitled "Advancements in Coconut Dehusking Technologies and Future Trends - A Review" in the Journal of Advancement in Machines.

MANUSCRIPTS REVIEWED

Dr. V. Manivel Muralidaran, Assistant Professor – III, reviewed following manuscripts



- (1) Impact of FDM Control Factors on Printing Time, Part Weight and Vibrational Loss Factor for FDM ABS Parts and Parameter Optimization Through Integrated TOPSIS-CoCoSo-Decision Tree Techniques for the Materials Engineering and Performance Journal.
- (2) Study on the Influence of Geometric Shape of Plate Welded Joint on Crack Propagation of Weld Toe for the Journal Physica Scripta

PATENTS



Dr. M. A. Vinayaga Moorthi, Assistant Professor – III, registered a patent on "COOKER HANDLE" bearing no. 431336-001 on 11-12-2024.

PROGRAMMES PARTICIPATED

Dr. K. K. Arun, Assistant Professor - III, participated in an FDP on Digital Frontiers in Manufacturing Excellence from 02-12-2024 to 07-12-2024, organized by Sri Ramakrishna Engineering College.



Departmental Activities



Dr. A. P. Arun, Assistant Professor - III, participated in an FDP on Leveraging Digital Technologies for Circular Economy and SDGs from 16-12-2024 to 21-12-2024, organized by Thiagarajar School of Management.

Dr. B. N. Sreeharan, Assistant Professor - III, completed a course "Statistical Methods for Decision Making" on 07-12-2024, organized by Great Learning Academy.



Dr. K. M. Senthilkumar, Associate Professor, participated in a Webinar on Hydraulic Engineering For Sustainable Watercourse Management on 14-11-2024 organized by IEI and Maccaferri Environmental Solutions Private Limited. He also participated in a FDP on Harnessing Digital Twin Technologies to Industry 4.0 / 5.0 for Sustainable Green Manufacturing from 16-12-2024 to 21-12-2024, organized by KIT-Kalaignarkarunanidhi Institute of Technology.

Mr. V. R. Navaneeth, Assistant Professor - II, participated in an FDP on Digital Frontiers in Manufacturing Excellence from 02-12-2024 to 07-12-2024, organized by Sri Ramakrishna Engineering College.



Dr. M. Thirumalai Muthukumar, Assistant Professor - III, participated in a Webinar on AI-powered chatbots changing and impacting mass customization on 10-12-2024, organized by Coimbatore Local Centre of The Institution of Engineers (India) under the aegis of Computer Engineering Division. Further he also participated in a Webinar on Plagiarism: Decision making & dealing with grey-zones across academic Fields and on Going through peer review on 31-12-2024 organized by Researcher Academy,

Elsevier.

Dr. S. Thirumurugaveerakumar, Associate Professor, participated in an FDP on Harnessing Digital Twin Technologies to Industry 4.0 / 5.0 for Sustainable Green Manufacturing from 16-12-2024 to 21-12-2024, organized by KIT-Kalaignarkarunanidhi Institute of Technology.



Mr. R. S. Mohankumar, Assistant Professor - II, participated in an FDP on Leveraging Digital Technologies for Circular Economy and SDGs from 16-12-2024 to 21-12-2024, organized by Thiagarajar School of Management.

Dr. M. A. Vinayaga Moorthi, Assistant Professor - III, completed a course on "Design Thinking for Innovation: Defining Opportunities" on 17-12-2024 organized by Infosys Limited.



INDUSTRY-ACADEMIA CONCLAVE 2024

Engineering the Future: Smart, Green, and Artificial Intelligence Driven

The Department of Mechanical Engineering at Kumaraguru College of Technology (KCT) hosted the prestigious Industry-Academia Conclave 2024 on December 27, 2024, at the Sarabhai Kalam Theatre. Themed "Engineering the Future: Smart, Green, and Artificial Intelligence Driven," the event marked a significant milestone in fostering collaboration between academia and industry. Over 320 participants, including students, academicians, and industry leaders, gathered to explore innovative solutions for a sustainable future.



A Distinguished Inauguration

The conclave commenced with a vibrant inaugural session attended by luminaries from academia and industry. The **Chief Guests** were **Dr. Rajkumar Swaminathan**, President of Rane Engine Valve Limited, and **Wing Commander P. Madhusoodhan**, Director of TANCAM. The **Guest of Honor**, **Mr. Rajiv Aramadaka**, Global Affairs Director for Public Sector at Dassault Systèmes, also graced the occasion.

Dr. M Ezhilarasi, Principal of KCT, welcomed the gathering, setting the tone for the day. Following this, **Mr. R.S Mohan Kumar**, Assistant Professor, introduced the conclave's vision and goals, providing a detailed overview of the event's agenda. **Dr. S. Raghupathy**, Director of Strategic Planning and Review, delivered a special address highlighting the transformative potential of academia-industry collaboration.

Departmental Activities

A **Memorandum of Understanding (MoU)** was signed between the Mechanical Engineering Department of KCT and **TANCAM**. The signing was officiated by **Mr. Muniasamy**, Executive Director; **Dr. C. Velmurugan**, HOD of Mechanical Engineering; and representatives from TANCAM, including **Wing Commander P. Madhusoodhan**, Director of TANCAM, and **Mr. Vijay Dheeban**, Chief Operating Officer, along with other dignitaries.

After the MoU signing, the Chief Guests and the Guest of Honor were felicitated by **Dr. M Ezhilarasi** and **Dr. S. Raghupathy**, expressing appreciation for their valuable contributions. Following this, a vote of thanks was delivered by **Dr. MA Vinayagamoorthi**, Assistant Professor, acknowledging the support and participation of all attendees.



Participant Demographics

The event witnessed the participation of 320 individuals, including fifty industry professionals, with the remaining participants comprising college students. The representatives were from renowned industries and institutes including:

INDUSTRIES:

- Capgemini Engineering
- Viking Industries
- Rabwin Industries Private Limited
- Idea Brigade Technology Solutions LLP
- Noah Engineering
- CIET TBI

Departmental Activities

- Unicon Engineers
- Ellengroups - Viking Industries
- Khay-Zen System India P Ltd.
- Bosch
- Salzer Electronics Ltd.
- Ashok Leyland
- TANCAM
- CODISSIA

COLLEGES:

- Kumaraguru College of Technology
- KIT - KalaignarKarunanidhi Institute of Technology
- Mahendra Engineering College
- Sona College of Technology
- Rajalakshmi Engineering College
- Sri Krishna College of Technology
- RVS College of Engineering and Technology
- JCT Polytechnic College
- Karpagam Institutions
- Sri Eshwar College of Engineering
- VIT Vellore



This comprehensive representation underscores the synergy between academia and industry, fostering meaningful collaborations.

Departmental Activities



Inaugural Address: Dr.M Ezhilarasi welcoming the gathering.



Mr R S Mohan Kumar presenting the conclave's overview



Special Address: Dr. S. Raghupathy emphasizing collaboration



Dr. Rajkumar Swaminathan addressing the gathering



Wing Commander P. Madhusoodhan sharing his insights



Mr. Rajiv Aramadaka sharing his valuable perspectives

Departmental Activities



MoU Signing: Formalizing KCT and TANCAM's partnership



Dr. S. Raghupathy felicitating the chief guests



Dr. M Ezhilarasi felicitating the guest of honor



Dr. M A Vinayagamoorthis proposing the vote of thanks

Session Highlights

Session 1: Revolutionizing Product Lifecycle Management with Digital Twins & IoT

The first session explored the transformative role of **Digital Twins and IoT** in engineering. It featured **Mr. Chidambaram Subramanian**, Senior Scientist at CMERI-CSIR, who brought his expertise in materials engineering and failure analysis; **Mr. Jagadeesh B**, Divisional Manager at Ashok Leyland Ltd., renowned for his work in production engineering and digital manufacturing; **Mr. Sreenivas Naidu K**, Senior General Manager of R&D at ZF Wind Power Limited, who is a leader in product lifecycle management and mechanical design; and **Mr. V. Nagabalaji**, Engineering Project Lead at Technip FMC, known for championing model-based enterprises and PLM strategies.

The session was moderated expertly, providing deep insights into reshaping manufacturing processes. Panelists were felicitated by **Dr. V R Muruganatham**, Associate Professor, and **Dr. V Manivel Muralidharan**, Assistant Professor.



Exploring the future: Experts unravel the transformative role of Digital Twins and IoT in engineering

Departmental Activities



Honoring excellence: Panelists were felicitated by Dr. V Manivel Muralidharan and Dr. V R Muruganatham for their invaluable contributions to the discussions on Digital Twins and IoT.

Departmental Activities

Session 2: Sustainable Manufacturing for the Future

The second session focused on **sustainability in manufacturing**. It featured **Mr. M. Lakshminarayana**, Vice President of Operations at Salzer Electronics Ltd., who emphasized operational excellence and sustainability in manufacturing processes; and **Mr. Kathirvel Saminathan**, Functional Safety Specialist at Bosch, who brought insights into automotive safety systems and AI/ML applications in manufacturing.

Discussions highlighted integrating **ecological responsibility** with economic growth to redefine industry standards. Panelists were felicitated by **Dr. Sangeetha N**, Senior Associate Professor, and **Dr. C. Velmurugan**, HOD.



Sustainability in focus: Redefining manufacturing with eco-friendly and innovative practices.

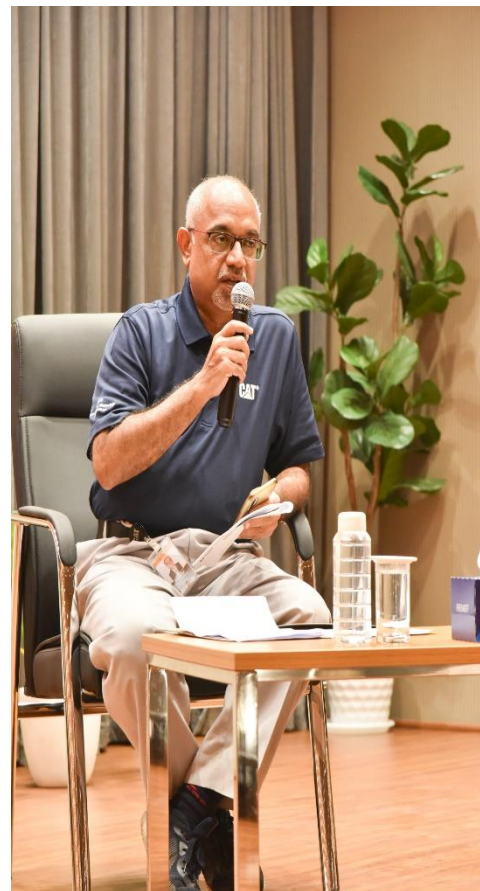


Felicitation Ceremony: Dr. C. Velmurugan and Dr. Sangeetha N presenting mementos to the session speakers.

Session 3: AI in Advanced Manufacturing Systems

The third session highlighted **AI's revolutionary impact** on manufacturing. **Mr. C. Navin Kumar**, Senior Project Lead at Tata Consultancy Services, shared his expertise in automotive software development and process automation. **Mr. Shankar Subburathinam**, Engineering Manager at Caterpillar India, brought valuable insights from his extensive career in metallurgy and manufacturing. **Mr. Prince Joseph**, Group Chief Information Officer at SFO Technologies, highlighted innovations in digital transformation and cybersecurity.

Discussions demonstrated **AI-driven innovations**, including predictive analytics, automated workflows, and digital transformation. Panelists were felicitated by **Mr. T. R. Sukumar**, Associate Professor; **Dr. B. Senthil Kumar**, Associate Professor; and Dr. **B. Jeeva**, Assistant Professor.



AI Revolution: Panelists showcasing cutting-edge applications of AI in manufacturing and process automation.

Departmental Activities



Gratitude Moment: Prof. T. R. Sukumar, Dr. B. Senthil Kumar and Mr. B. Jeeva acknowledging the contributions of the esteemed speakers.

Departmental Activities

Session 4: Additive Manufacturing and Smart Materials for Industry 4.0

The final session emphasized **advanced manufacturing technologies and smart materials**. It featured **Dr. Ram Prabhu**, Distinguished Scientist at DRDO, who discussed groundbreaking advancements in metal additive manufacturing; **Mr. Sudhakar V**, Senior Manager of Segment Solutions at SECO India, who shared expertise in CNC machining and digital manufacturing; and **Mr. Kannapiran Marudhachalam**, Manager at Capgemini Engineering, who focused on driving innovation in advanced manufacturing.

Discussions highlighted the role of **Industry 4.0** technologies in transforming industrial landscapes. Panelists were felicitated by **Dr. Sreeharan B N**, Assistant Professor; **Dr. M A Vinayagamoorthi**, Assistant Professor; and **Mr. Mohan Kumar R S**, Assistant Professor.



Advanced Technologies: Panellists presenting groundbreaking advancements in additive manufacturing and smart materials

Departmental Activities



Token of Appreciation: Mr. R. S. Mohan Kumar, Dr. M. A. Vinayagamoorthi and Dr. B. N. Sreeharan the session experts.

Departmental Activities

Key Takeaways and Impact

The conclave underscored the significance of bridging **academic knowledge** with **industrial applications**. Participants praised the **diversity of topics** and the depth of discussions. Industry representatives lauded the event as a robust platform for **collaboration and innovation**.

Future Benefits:

Building on the success of the Industry-Academia Conclave 2024, the event has paved the way for **future-focused initiatives**. Key collaborations aim to provide **student internships, industrial training for faculty**, and opportunities for **consultation with industry experts**. Joint efforts in **research and publications**, along with enhanced **recruitment and placement prospects**, further strengthen the partnership's impact. The collaboration also envisions **knowledge-sharing sessions, advanced skill development programs**, and the integration of **cutting-edge technologies** into academia, ensuring a sustainable and innovative future for all stakeholders.

- **Faculty Co-ordinators** : Dr. Velmurugan C, Mr. R. S. Mohan Kumar, Dr. A. P. Arun, Dr. V. R. Muruganatham, Dr. K. Krishnamoorthi.
- **Working Committee:** Mr. Sukumar T R, Dr. Vinayaga Moorthi M A, Dr. Karuppusamy T, Dr. Manivel Muralidaran V, Dr. Thirumalaimuthukumaran M, Dr. Sreeharan B N, Mr. Pradeep P, Mr. Devan P D
- **Student Co-ordinators:** Mr. Sanjay R, Mr. Sathish Kumar S, Mr. Akshay Kanna B, Mr. B. G. Pravan

You can watch the short video of the conclave:

<https://tinyurl.com/4du4pew4>

STUDENT ACTIVITIES

- Between December 9th to December 14th, **Mr. R. Mohan, 22BME061** and **Mr. S. Dhanuskumar, 22BME021**, interned at Titan in Hosur. During this week-long internship, they gained invaluable experience in precision manufacturing and horology, working closely with cutting-edge technologies and industry experts.
- From December 6th to December 12th, 2024, following students interned at M/s. Mirbha Automations.

Ms. P. Kirubashini, 22BME050

Mr. S. Aruthra, 22BME013

Ms. M. S. Paviezha, 22BME071

Mr. A. M. Sharan, 22BME097

Mr. T. Subash, 22BME107

Departmental Activities



- **Mr. B. Nitin**, 22BME069, completed an internship at SAIL (Steel Authority of India), Salem. From December 9, 2024, to December 14, 2024.
- Following students went to internships at ISRO Propulsion Complex, Mahendragiri from 09-12-2024 to 20-12-2024.



Mr. R. J. Aldrin, 22BME007

Mr. D. Jai Harish, 22BME040

Mr. S. Ajmal Batcha, 22BME004

- **Mr. M. Baskaran**, 22BME307, **Mr. A. C. Aruneshwaran**, 22BME305, and **Mr. K. S. Shyam**, 22BME101, published their paper entitled "Advancements in Coconut Dehusking Technologies and Future Trends - A Review" in the Journal of Advancement in Machines under the supervision of Dr. B. N. Sreeharan.

SNAPSHOTS



Women Empowerment Programme



Dr. A. P. Arun and Mr. R. S. Mohankumar @ ATAL FDP

INVESTITURE CEREMONY OF MECHANICAL ENGINEERING ASSOCIATION



Dr. V. R. Muruganatham
Associate Professor



Dr. M. A. Vinayagamoorthi
Assistant Professor III



Real Admiral VM Doss
AVSM VSM (Retd)
Director,
KC.IRI – Defence Programs



Faculty coordinators
Dr. V. R. Muruganatham and
Dr. M. A. Vinayagamoorthi felicitating HOD
Dr. C. Velmurugan



Dr. Sangeetha presenting the memento to
Dr. M. A. Vinayagamoorthi



Dr. P. S. Premkumar felicitating
Dr. V. R. Muruganatham



Mr. R. Sanjay, president of MEA presenting a memento to **Dr. B. N. Sreeharan**, Editor of Mexpress



Mr. Divakar, Vice-president of MEA presenting the memento to **Dr. T. Karuppusamy**, Faculty coordinator of RC Forum

Departmental Activities



Felicitation to the Office Bearers



Mechanical Engineering Association Officer Bearers



KUMARAGURU
college of technology

COIMBATORE – 641 049

Department of Mechanical Engineering

INSTITUTE VISION:

The vision of the college is to become a technical university of International Standards through continuous improvement.

INSTITUTE MISSION:

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic, and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

DEPARTMENT VISION:

To achieve global recognition for the programs of the department by promoting innovation, sustainability, and leadership, contributing to the society.

DEPARTMENT MISSION:

1. To promote innovation in the Mechanical Engineering through curriculum, focusing on sustainability and ethical practices.
2. To create an active learning ecosystem for acquiring knowledge and skills in Mechanical Engineering.
3. To facilitate research in mechanical systems and sustainable technologies that have an impact on industry and society.

B. E. MECHANICAL ENGINEERING

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

- PEO 1 :** Graduates to pursue careers in Mechanical engineering and allied fields.
PEO 2 : Graduates to engage in the execution of multi-disciplinary engineering activities.
PEO 3 : Graduates to pursue professional development programs in Mechanical Engineering Science and Management.

PROGRAM OUTCOMES (PO's):

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Engineering tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
8. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
9. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
10. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
11. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.

M. E. INDUSTRIAL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- PEO 1 :** Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.
- PEO 2 :** Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.
- PEO3 :** Graduates would function as educators or researchers in academic institutions.

PROGRAM OUTCOMES (PO's):

- P01 :** An ability to independently carry out research /investigation and development work to solve practical problems.
- P02 :** An ability to write and present a substantial technical report/document.
- P03 :** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.
- P04 :** Apply knowledge and competencies in manufacturing, analytics, supply chain, quality and engineering management.
- P05 :** Apply principles of industrial engineering to solve problems in industry.
- P06 :** An ability to work as part of interdisciplinary teams, communicate effectively, model and design engineering systems optimally.