

# MExpress

July 2025

Mechanical Engineering Department's Official Newsletter

Volume No. 08 Issue No. 11



Reach Us At...

 [da.mec@kct.ac.in](mailto:da.mec@kct.ac.in)

 [mea\\_kct](#)

 [MEAKCT](#)

 [meakct](#)



Mechanical Engineering Association  
Department of Mechanical Engineering  
KUMARAGURU COLLEGE OF TECHNOLOGY



## EDITORS



**Dr. P. S. Samuel Ratna Kumar**  
Assistant Professor - III & Head



**Dr. B. N. Sreeharan**  
Assistant Professor - III

## ASSOCIATE EDITORS



**Ms. P. Kirubashini**



**Ms. S. Santhiya**



**Mr. T. K. Sri Yashwanth**



**Mr. N. S. Barath**

## CONTENTS

Details	Page No.
Editors' Portfolio	4
Paper Publications	5
Faculty as Resource Persons	5
Programs Participated	5
Manuscripts Reviewed	5
Research Funds	6
Project Proposal Submitted	6
Faculty Upskilling	6
Annual Doctoral Committee conducted	7
Student Activities	8
Student Publications	15
Snap Shots	16
Vision, Mission, POs, PSOs and PEOs	17

## From the Editors...

Dear Readers,

### From the Editor's Desk – 95th Edition

As we turn the pages of the 95th issue of our departmental newsletter, we're reminded that excellence is not a destination, but a journey we walk together—with purpose and pride. This edition is a tribute to ideas sparked, goals achieved, and horizons expanded.

Our faculty continue to drive academic excellence through impactful programmes, insightful publications, and active contributions to patents, consultancies, and scholarly reviews. Their efforts are recognized through awards, industry collaborations, and upskilling that keep us future ready.

Our students add vibrancy through their active participation in competitions, projects, and initiatives that showcase their confidence and curiosity. Together, their efforts bring learning to life.

The snapshots in this edition capture more than moments—they reflect the shared spirit of progress and innovation that defines us.

To all contributors and readers—thank you for being part of this journey. Here's to moving forward with passion, purpose, and pride.

Warm regards,

Editors....



## PAPER PUBLICATIONS



**Dr. B.N. Sreeharan**, Assistant Professor – III, from the Department of Mechanical Engineering, has published a research paper titled “Comparative Study of Gravitational Water Vortex Turbine (GWVT) with Fibonacci and Conical Casing” in the **International Journal for Research in Applied Science & Engineering Technology (IJRASET)**.

**Dr. M.A. Vinayaga Moorthi**, Assistant Professor – III, from the Department of Mechanical Engineering has published a research paper titled “Experimental Study on Mechanical Behaviour of Reinforced Composite for Automotive Interior Panel Applications” in **IEEE Xplore** on **3rd June 2025**.



## FACULTY AS RESOURCE PERSONS



**Dr. M. Balaji**, from the Department of Mechanical Engineering, served as a resource person at a Faculty Development Program titled "Holistic Faculty Empowerment for a Future Ready Academia", held from 9th to 13th June 2025. The program was organized by the Skill Development Centre in association with IQAC of SNS Arts and Science College, Coimbatore.

## PROGRAMMES PARTICIPATED

**Dr. B. N. Sreeharan**, Assistant Professor – III, completed a Skill development program on “Data Visualization for Academic Operations: Tableau & Metabase” during 27-06-2025 and 28-06-2025.



## MANUSCRIPTS REVIEWED

**Dr. C. Velmurugan**, Professor, reviewed a manuscript titled “Effect of Cooling Slope Casting on the Microstructure and Wear Behaviour of A356–Mg<sub>2</sub>Si–TiB<sub>2</sub> Hybrid Composites” for Materials Letters, Elsevier (ScienceDirect), on 26th June 2025.



## RESEARCH FUNDS

### Research Initiative – Staircase Lift Innovation Recognized Nationally

A team from the Department of Mechanical Engineering has successfully secured research funding under the Innovation Repository scheme for the project titled "Fabrication of Staircase Lift for Elderly and Physically Challenged Individuals." The project, guided by **Dr. S. Rajesh, Dr. S. Sivakumar, and Dr. V. Manivel Muralidaran**, has been recognized and listed in the YUKTI – National Innovation Repository (NIR) by the Ministry of Education's Innovation Cell, Government of India in June 2025.



## PROJECT PROPOSAL SUBMITTED



On 20th June 2025, a project proposal worth ₹33,67,000, titled "Handloom-based Technical Textiles: Research, Innovation, and Enterprise for Sustainability" was submitted under the University Research Park Scheme of the Tamil Nadu Industrial Development Corporation Limited (TIDCO). The proposal was collaboratively submitted by: Dr. R. Priyadarshini, Assistant Professor (AP-III) and Head, Department of Fashion Technology, Dr. B. Poongodi, Professor, Department of Management Studies, **Dr. C. Velmurugan**, Professor, Department of Mechanical Engineering, Mr. R. M. Subramaniam, Managing Director, Trytex Machines Company, Coimbatore.

## FACULTY UPSKILLING

**Dr. B. N. Sreeharan**, Assistant Professor – II, completed following courses through Coursera and Udemy.

- Statistics and Data Analysis with Excel, Part 2
- Excel Skills for Statistics and Data Analysis: Essentials, Intermediate
- Basic Data Descriptors, Statistical Distributions, and Application to Business Decision
- Business Applications of Hypothesis Testing and Confidence Interval Estimation
- Power Query Fundamentals
- Power Pivot Fundamentals
- Statistical Process Control using Microsoft Excel (Udemy)



# Departmental Activities



**Mr. K. Manikanda Prasath**, Assistant Professor – II, completed the following courses through Coursera: Strategic Planning and Execution and Business Strategy in Practice (Project-cantered Course)

**Dr. K. K. Arun**, Assistant Professor – III, completed an online course on “AI for Design and Optimization” through Coursera.



**Dr. N. Sangeetha**, Senior Associate Professor, completed an online course on “GPT Vision: Seeing the World through Generative AI”

**Dr. S. Rajesh**, Assistant Professor – II, completed three online courses through Coursera titled “Cutting-edge Technology in Air Conditioning System”, Basics of Air Conditioning & Heat Load Calculation and “Air Conditioning Equipment Selection, Design and Sizing”.



**Mr. P. Pradeep**, Assistant Professor – II, completed an online on "Electric vehicles and Mobility through Coursera.

**Dr. S. Sivakumar**, Assistant Professor – III, completed a couple of online Ventilation, Life Safety, and smoke extractions in Building, Two Phase Pipe Hydraulics and Sizing through Coursera.



## Annual Doctoral Committee Meeting Conducted



An Annual Doctoral Committee Meeting was conducted on 23rd June 2025 for the Part-Time Ph.D. Research Scholar Mr. R. Arunkumar (Reg. No. 21142691295) of **Dr. C. Velmurugan**, Professor. Doctoral Committee Members presented were Dr. S. Senthil Kumaran, Professor, Department of Mechanical Engineering, CEG Campus, Anna University, Chennai, Dr. N. Radhika, Professor, Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Coimbatore. Title of the Research Work: Experimental and Numerical Investigation of Composite Materials for Spacecraft Applications.

## STUDENT ACTIVITIES

**Internship Records of current 3<sup>rd</sup> year mechanical students done by them during the end of their 2<sup>nd</sup> year:** The internships were coordinated by **Mr. P. D. Devan**, Assistant Professor – II.

S. No.	Roll No.	Name	Company Name
1	23BME001	ABDUL RAZAK J	Tex-Tech Industries (India) Private Limited
2	23BME003	ADHEESWAR NACHAPPA B	Velavan Trades
3	23BME005	AKELAN R	Precision machine tools
4	23BME006	AKHSHAYA KARTHICK J	CNC Care Systems
5	23BME007	AKSHAI U	sakthi auto components limited factory,
6	23BME008	ANBUSELVAN R .	Pothiyan Industries
7	23BME009	ANTON PIO SMITH R	Kalpaka chemicals Pvt Ltd
8	23BME012	BALAMURUGAN M	Bharat Heavy Electricals Limited
9	23BME013	BARATH N S	Larsen & Toubro
10	23BME014	BARATH T	Velavan Trades
11	23BME015	CHITRARASU K	RD BROWN BOX PACKAGING PVT LTD
12	23BME016	DEENADHAYALAN B	Besten Pumps
13	23BME017	DEEPAK PRASANNA S M	Besten Pumps
14	23BME018	DEEPAKUMAR S	Micro Form Automation
15	23BME019	DEEPAN KARTHIK V	Best Engineering Industries
16	23BME020	DHARANISH M B	Micro Form Automation
17	23BME021	DHARSHAN I .	Yellow equipment services
18	23BME025	DINESH B	Valeo India private limited
19	23BME027	GUGANITIN S	Bull machines pvt Ltd
20	23BME028	HAMSAVARDHINI A	SAKTHI GEAR PRODUCTS
21	23BME029	HAREKRISHNAN G R	Shakthi car centre
22	23BME030	HARIDAR P	Super Machine Works
23	23BME031	HARIHARAN P	GK TECH Automation and solution
24	23BME034	HARISH KUMAAR S	Suguna Pumps and Motors
25	23BME035	HARISH RAJ G	Ganga Engineering works

## Departmental Activities

S. No.	Roll No.	Name	Company Name
26	23BME036	HARITH S	METROTEC ENGINEERING PRIVATE LIMITED
27	23BME037	HARRIS MELWYN DEV R	Star Plast
28	23BME038	HEMANTH S	Adroit Automation India Private Limited
29	23BME041	ISHAN S	Maruti Suzuki
30	23BME042	JEFFSON MAC S.	Bosch limited
31	23BME043	JEYAPRASANNA P	Best Engineering Industries
32	23BME044	KATHIR LAKSHMAN P	Star Plast
33	23BME045	KAVIN R V	Bunny Industries, SIDCO Industrial Estate
34	23BME046	KEERTHIN P	CNC Care Systems
35	23BME047	KISHOOR VIJAYAKUMAR .	Endurance technology
36	23BME048	KISHORE G	J.K. Fenner (India) Limited
37	23BME049	KISHORE V K	Selvam Engineering works
38	23BME051	MAHESHKUMAR M	Pothiyam Industries
39	23BME053	MITHRAN S S	CNC Care Systems
40	23BME055	NAREN K	Besten Pumps
41	23BME057	NAVIN G	Cleantek
42	23BME058	NAVIN S	Pothiyam industries
43	23BME059	NAWFAL MOHAMMED UMAR FAROOK	Hyundai company,
44	23BME060	NIRANJAN K .	Effica Automation
45	23BME061	NISHIT H	Sun Racks and Coats
46	23BME064	OSCAR RICHERD G	Microtome Automations Pvt Ltd
47	23BME065	PARAMESWAR MOORTHY	Falcon Toolings
48	23BME066	PARIJATHAN A	NLC India Limited
49	23BME067	PAVITHRAN S	Unimech Industries Pvt. Ltd.,
50	23BME069	PRANAV M	Hyundai Motor India Limited
51	23BME070	PRANESH S P	WESTERN CNC ENGINEERING
52	23BME071	PRASANNA S M	Santhosh Agri Machinery (KARTAR)
53	23BME074	PRAVINRAJ M	MESSER CUTTING SYSTEMS INDIA PVT LTD

## Departmental Activities

S. No.	Roll No.	Name	Company Name
54	23BME075	PRITISH S	Precision Machine Tools
55	23BME079	RITIK R G	METROTEC ENGINEERING PRIVATE LIMITED
56	23BME080	ROHIT S V	SALZER ELECTRONICS LTD., UNIT-2
57	23BME081	RUNIC KABILAN M	BOSCH Global Car Service
58	23BME082	SANJAY G	Microtome Automations Pvt Ltd
59	23BME083	SATHISH KUMAR R	Unimech Industries Pvt. Ltd.
60	23BME084	SHREEJAA R	Amex Alloys Private Limited
61	23BME086	SILAMBARASAN M	Southern Engineering
62	23BME087	SNEHAA SENNIAPPAN	SAKTHI GEAR PRODUCTS
63	23BME088	SREE RAJA M S	Sun Racks and Coats
64	23BME089	SRI SHANTH A	BAJAJ AUTOMATION
65	23BME090	SRI YASHWANTH T K	PRICOL ENGINEERING INDUSTRIES PRIVATE LIMITED
66	23BME092	SRIRAM A	MESSER CUTTING SYSTEMS INDIA PVT LTD
67	23BME093	SUKAND S	SALZER ELECTRONICS LTD., UNIT-2
68	23BME094	SUKESH M	KOOT (K21 Ventures)
69	23BME095	TAMILSELVAN R	Jayam Engineering and Tools
70	23BME096	THARUN NACHIYAPPAN JAWAHAR	KOOT (K21 Ventures)
71	23BME097	THAYANIDHI S	KOOT (K21 Ventures)
72	23BME099	VENKATACHALAM M	Southern engineering
73	23BME100	VENKATESH R	Jayam Engineering and Tools
74	23BME101	VIGNESVARAN K K	Anammallais motor private limited
75	23BME102	VIJAI PRANESH S S	KOOT (K21 Ventures)
76	23BME103	VIJAY KRISHNA S	Bestomech industries
77	23BME105	VIKASH K	KOOT (K21 Ventures)
78	23BME107	VISHNUVARDHAN R	Sun Racks and Coats
79	23BME109	YASWANTH K	KOOT (K21 Ventures)
80	23BME110	YAZHINI R .	SAKTHI GEAR PRODUCTS
81	23BME111	YUVASHREE K	Amex Alloys Private Limited

## Departmental Activities

S. No.	Roll No.	Name	Company Name
82	23BME301	ADHITHYA K .	Sun Racks and Coats
83	23BME304	DHARINEESH A .	MECHNIDO
84	23BME305	GOWTHAM M	MECHNIDO
85	23BME306	HARI S K	Sun Racks and Coats
86	23BME307	HEMANTH N K .	Jayam Engineering and Tools
87	23BME308	JANAA S .	MECHNIDO
88	23BME309	MANNEESWARAN L .	Universal Machine Works
89	23BME310	MAYAKARTHIK M	IR Road Paints
90	23BME312	RITHICK K .	Sun Racks and Coats
91	23BME314	SHANMUGESH V	Sun Racks and Coats
92	23BME315	SHRI HARI G	Praanav Design Engineering Works
93	23BME316	VAMANAN S S .	Jayam Engineering and Tools
94	23BME317	VARUN S .	Praanav Design Engineering Works
95	23BME318	VISHAL R S	Praanav Design Engineering Works

Internship Records of current 2<sup>nd</sup> year mechanical students done by them during the end of their 1<sup>st</sup> year is given below. The internships were coordinated by **Dr. M. A. Vinayagamoorthi**, Assistant Professor – III.

S. No.	Roll No.	Name	Company Name
1	24BME001	AADARSH ALIYATH GIRISH	Core Design Studio
2	24BME002	AADITYA R	Tod Technologies
3	24BME003	ABHISHEK S	Anaamalais Toyota
4	24BME004	ABIHASH JENO S	Tamilnadu Newsprint And Papers Limited
5	24BME005	ABINAV G	Vishnu Engineering Works
6	24BME006	ABINESH R	Messer Cutting Systems India Private Limited
7	24BME007	ADITYA N	Ministry Of Defence
8	24BME008	AFRIN PAUL M	TANSAM
9	24BME009	AKASH C	AMR Industrials
10	24BME010	AKEEL RAHMAN S N	Bharathi Engineering Works

## Departmental Activities

S. No.	Roll No.	Name	Company Name
11	24BME011	ALAN STEVE APPADURAI	Sri Ayyappa Lasers Pvt Ltd
12	24BME012	ANILKUMAR A V	NLC India Limited
13	24BME013	ANISHWARA K	Tamilnadu State Transport Corporation (Madurai) Ltd.
14	24BME014	ARASIAH K	NLC India Limited
15	24BME015	ARUN K P	Balaji Engineering
16	24BME016	ARUN PRASATH S	CAI Auto Industries Pvt Ltd
17	24BME017	ASHVARDHDHAN G U	Sri Ayyappa Lasers Pvt Ltd
18	24BME018	ASHWATH P P	Anaamalais Toyota
19	24BME019	BAALA SUDHAN P A	Exide Industries Limited
20	24BME020	BARATH R	Zeenath Industries
21	24BME021	BENNET ROYSTEN A	Zion Engineering & Rubber Products
22	24BME022	BOOBALAMANIKANDAN V	Barani Hydraulics India Private Limited
23	24BME023	BRIJESH S H	Ram Engineers
24	24BME024	CLARA D	Tamilnadu State Transport Corporation (Madurai) Ltd.
25	24BME025	DARSHNNI L	Lakshmi Weaving Factory
26	24BME026	DEEKSHA P	Amex Alloys
27	24BME027	DHAYABARAN N	Sri Balachandra Foundry
28	24BME028	DHEEPAK KUMAR AGARAMUDHALI PADMAKUMAR	ONGC
29	24BME029	DINESHKARTHICK R	Zeenath Industries
30	24BME031	DIVYAN P	NLC India Limited
31	24BME032	DOMESHWAR V	Tamilnadu Newsprint And Papers Limited
32	24BME033	GAURIIKA K T	K-Geo
33	24BME034	GAYATHRI SREHA K	K-Geo
34	24BME035	GIRI KAVINEESH K	NLC India Limited
35	24BME036	GOWTHAM R	Southern Railway
36	24BME037	HARI PRASATH M	Bharathi Engineering Works
37	24BME038	HARIBALA S	Bharathi Engineering Works

## Departmental Activities

S. No.	Roll No.	Name	Company Name
38	24BME039	HARIPRASSANNA M	ONGC
39	24BME040	HARIS PRASHANTH S	ONGC
40	24BME041	HARISH KUMAR J	Star Drives
41	24BME042	HARISHWA S	TVS Vehicle Mobility Solution Private Limited
42	24BME043	HARSIV ADITHYA V	Deccan Industries
43	24BME044	IMTHIYAS AHAMED I	Bharathi Engineering Works
44	24BME045	JOICE V J	Sakthi Engineering Works
45	24BME046	JOTHIRAGAVAN S	Futuretech Cranes & Hoists
46	24BME047	JOVIN KAGOO D	ONGC
47	24BME049	KANNAN P	Ensemble Nexgen
48	24BME050	KARTHICK SABARIESH E T	Sri Ayyappa Lasers Pvt Ltd
49	24BME051	KAVINKUMAR P	Ram Engineers
50	24BME052	KIRUBHAGAR E S	Orange Sorting Machines (India) Private Limited
51	24BME053	KUMARESAN V	Zeenath Industries
52	24BME054	LOKESHMURUGAN K	SPM Laser Cut
53	24BME055	MADHAV A	Vee Gee Apparels
54	24BME056	MANIKANDAN	Techno Matrix
55	24BME057	MATHIMUHILAN S	SPM Laser Cut
56	24BME058	MEGATHESH R K	Ram Engineers
57	24BME059	MOHAMED ABUBACKER M	Grovjoint India Pipe Fittings
58	24BME060	MOHAMMED FADIL A	Messer Cutting Systems India Private Limited
59	24BME061	MOHANARAMANAN S	Annam Industries
60	24BME062	MOHEMED ROSHAN T	Selva Bharathi Engg.
61	24BME063	MONIK M	Selva Bharathi Engg.
62	24BME064	MUGESH M	Yathra Automotive Industries
63	24BME065	MUHAMMED SHAFEEQUE A	Balaji Engineering
64	24BME066	MUKESH S	Messer Cutting Systems India Private Limited
65	24BME067	NADHIN SELVA S	Sri Vinayaka Motors

## Departmental Activities

S. No.	Roll No.	Name	Company Name
66	24BME068	NAGALINGAM K	Leela Engg Works & Services
67	24BME069	NARENTHERAN A	TANSAM
68	24BME070	NAVEEN S B	Selva Bharathi Engg.
69	24BME071	NETHRA A	Bull Machines Pvt. Ltd
70	24BME072	NEVATHAN V	Kandhan Equipments Pvt. Ltd
71	24BME073	NIRANJAN C	Adhishree Cnc
72	24BME074	NISSANTH S V	Bull Machines Pvt. Ltd
73	24BME075	PAWAN K	Ram Engineers
74	24BME076	PRANEETH S	Vivins Precision Tools
75	24BME077	PRANESH P N	Sri Ayyappa Lasers Pvt Ltd
76	24BME078	PRANESH S	National Institute Of Technology
77	24BME079	PRAVEEN R	Balaji Engineering
78	24BME080	PRITHIV S S	AMR Industrials
79	24BME081	RENITH P G	Bull Machines Pvt. Ltd
80	24BME082	RENJISH R	Tamilnadu State Transport Corporation (Madurai) Ltd.
81	24BME083	RITHIK P	Lakshmi Machine Works
82	24BME084	RITHWIK KUMARAN S	SSNNT Senthil Industries
83	24BME085	ROHITH S	TANSAM
84	24BME086	SAARVES R	Solto Safs
85	24BME087	SAGAYARAJ M	Japastinsagayam Engineering Works
86	24BME088	SAKTHI SHARAN S	Lakshmi Machine Works
87	24BME089	SANJAY B S	Top Tech Industries
88	24BME090	SANJAY S	Paranthaman Exporters
89	24BME091	SANJAY VENKATESVARA KANNAN	Makino India Private Limited
90	24BME092	SANJAY VIGNESH V	Vee Gee Apparels
91	24BME093	SHAKTHISHREYA M	Minox Techno Pvt Ltd
92	24BME094	SHARVESH SIDDHARTH L N B	Sri Hari Arun Engineering
93	24BME095	SHEIK ABDUL KALAM P	Tamilnadu State Transport Corporation (Madurai) Ltd.
94	24BME096	SHREE HARI J S	Samudra Pumps (India) Pvt Ltd

## Departmental Activities

S. No.	Roll No.	Name	Company Name
95	24BME097	SHRUTHI M	Turbo Energy Private Limited
96	24BME098	SHYAM ARUNACHALAM K	Bull Machines Pvt. Ltd
97	24BME099	SIVAGURU A V	Top Tech Industries
98	24BME100	SRI NISHANTH R	Leela Engg Works & Services
99	24BME101	SRIVARSANJAY M	Supreme Technologies
100	24BME102	SUDAR PRABHU N K	Supreme Technologies
101	24BME103	SUGAN V	Microtome Automation Private Limited
102	24BME104	SUNDAR S	AMR Industrials
103	24BME105	SUPRIYA R	Kodacy
104	24BME106	TAMILZHARASU S	Orange Sorting Machines (India) Private Limited
105	24BME107	THILAK S	New Era Engineering
106	24BME108	VAESHNAVE M	TANSAM
107	24BME109	VARUN VISHAAL B	Surfine Tools
108	24BME110	VIDHYUSHAA V K	Bull Machines Pvt. Ltd
109	24BME111	VISHNU M	Samudra Pumps (India) Pvt Ltd
110	24BME112	VISHVA C S	Japastinsaga Yam Engineering Works
111	24BME113	VISHVA SEENIVASAGAN S	Bull Machines Pvt. Ltd
112	24BME114	YATHUNANTHAN S	Barani Hydraulics India Private Limited
113	24BME115	YOKESH KUMAR S	India Yamaha Motor India Pvt Ltd
114	24BME116	VENKAT	Top Tech Industries
115	24BME117	DHANUSH S	Supreme Technologies

## STUDENT PUBLICATIONS

Our students **Baskaran M, Tamilarasu K, and Thirumalaimuthukumaran M** addressed structural challenges in 1000-litre sintex water tank stands using **Finite Element Analysis (FEA)**. By comparing two L-section designs using **ASTM A36 mild steel**, their optimized **Design 2** reduced stress and deformation by over 50%. They brought the design to life through real-world fabrication—cutting, welding, and applying corrosion-resistant coating—showcasing true engineering in action. An excellent blend of innovation, analysis, and practical application.

## Departmental Activities

Ajmal Batcha S (22BME004), Arunesh Muthiah K (22BME011), and Jai Harish D (22BME040) from the Department of Mechanical Engineering have published a joint research paper titled “Comparative Study of Gravitational Water Vortex Turbine (GWVT) with Fibonacci and Conical Casing” in an international journal (ISSN: 2321-9653; SJ Impact Factor: 7.538; June 2025), under the guidance of **Dr. B.N. Sreeharan**.

### SNAP SHOTS



Dr. Balaji as Resource Person



**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. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## 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.