

Edition VII, Volume I, 2023-24

Mechanical Engineering E-Magazine (LBRCE)



(TIER-I)



ANSYS®



MECH PULSE

(JUL-SEP 2023)

DEPARTMENT OF MECHANICAL ENGINEERING
LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(Autonomous)

Accredited by NAAC & NBA under Tier - I
Approved by AICTE and Permanently Affiliated to JNTUK, Kakinada

Mechanical Engineering E-Magazine (LBRCE)

MESSAGE FROM HEAD OF THE DEPARTMENT

I am very happy to inform you that the department of mechanical engineering is bringing **MECH PULSE-an e-magazine** its edition VII and volume I. The department of mechanical engineering is Accredited by **National Board of Accreditation (NBA) under Tier-I** and is started in the year 1998 with an intake of 60 students. At present the department is offering B.Tech Mechanical Engineering with an intake of 60 students and M.Tech – Thermal Power Engineering with an intake of 6 students. The department has thirteen state of art laboratories worth of 2.8 crores, with advanced computing facilities, software and research equipment. Advanced **Research Laboratories** in the area of **Cognitive Science, Material Testing, Tribology and Thermal Engineering** are available. Sophisticated **ANSYS Skill Development Centre** with 110 users of ANSYS 18.1 and **Dassult 3D Experience centre** (in association with APSSDC) is available. The department has 31 faculty members with 11 Doctoral degrees. Thirteen faculty are actively pursuing for their Ph.D in various universities and nine research scholars are working for their doctoral under the department faculty. The department faculty constantly upgrade their knowledge in the area of their domain by attending various Faculty Development Programs, workshops, seminars etc. The faculty are actively engaged in their research work and are active in publishing papers in journals and conferences.

VISION OF THE DEPARTMENT

- To impart knowledge in Mechanical Engineering with global perspectives for the graduates to serve the society and industry.

MISSION OF THE DEPARTMENT

- To enable the graduates technically sound with the state- of- the –art curriculum and innovative teaching methods
- To provide training programs that bridge the gap between academia and industry
- To create a conducive environment and facilities to improve overall personality development of the graduates
- To make the graduates aware of role and responsibilities of an engineer in society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To build a professional career and pursue higher studies with sound knowledge in Mathematics, Science and Mechanical Engineering.

PEO2: To inculcate strong ethical values and leadership qualities for graduates to become successful in multidisciplinary activities.

PEO3: To develop inquisitiveness towards good communication and lifelong learning.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

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.

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.

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.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

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.

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.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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.

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.

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 (PSOs)

PSO1: To apply the principles of thermal sciences to design and develop various thermal systems.

PSO2: To apply the principles of manufacturing technology, scientific management towards improvement of quality and optimization of engineering systems in the design, analysis and manufacturability of products.

PSO3: To apply the basic principles of mechanical engineering design for evaluation of performance of various systems relating to transmission of motion and power, conservation of energy and other process equipment.

RESEARCH PROJECTS APPLIED

S.No.	Name of the Faculty	Title of the Project	Funding Agency	Amount	Applied Year
1.	Dr.P.Ravindra Kumar	IoT based double based integration of leaf cutter and fertilizer spray machine	MSME Project	14 Lakhs	2023

PUBLICATIONS BY FACULTY

A: Conferences Attended

- **Mr. Kolagotla Venkateswara Reddy, Mr. Kolahalam Sai Babu, Mr. Buradagunta Emmanuel, Mr. Nelakuditi Naresh Babu, Dr. Seelam Pichi Reddy, Dr. Vallapudi Dhana Raju, and Mr. Mallikarjuna Rao Dandu,** “Comparative Thermal Analysis by Using Simulation of Circular Fin Manufactured with Several Materials” in the International Conference on Advances in Materials and Systems (ICAMS-2023) at Vardhaman College of Engineering, Hyderabad, on 27th & 28th July 2023.

STAFF COLLOQUIUMS

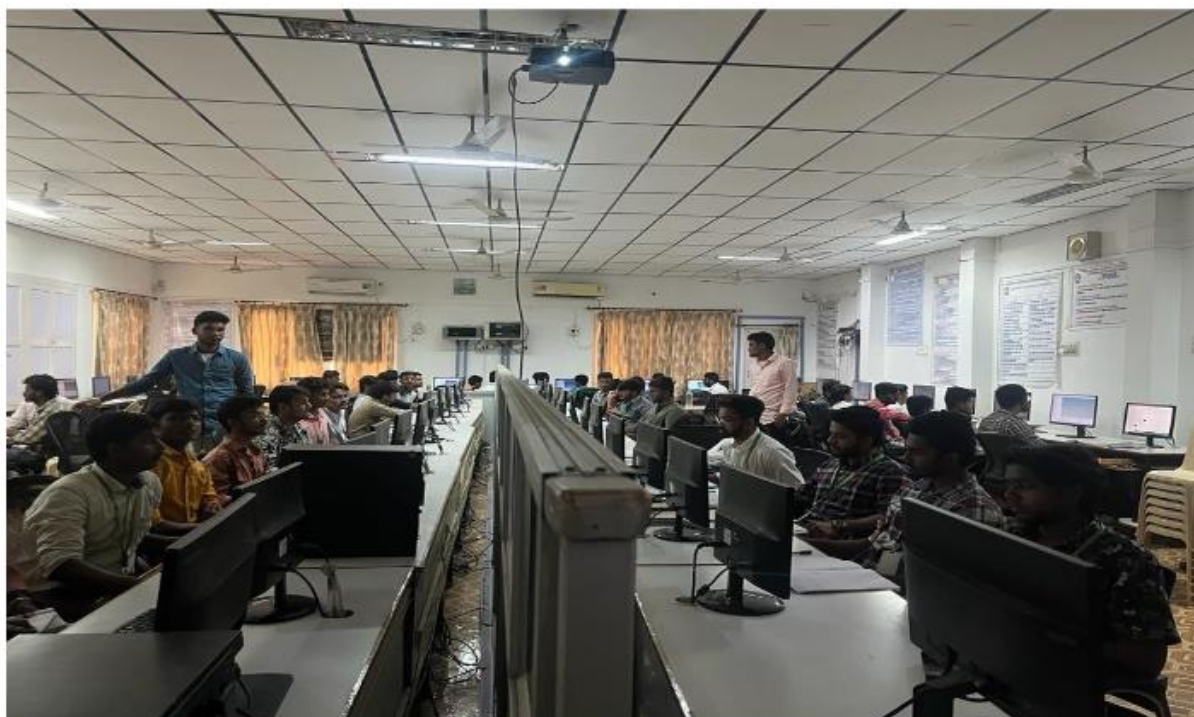
NAME OF THE FACULTY	NAME OF THE TOPIC	DATE
Dr.M.B.S.Sreekara Reddy	Vibration Analysis of 3D Printed Porous Core Beams	09.08.2023
Dr.P.Vijaya kumar	Experimental Analysis of Air-conditioner with phase change material	25.08.2023
Dr.P.Ravindra Kumar	Design and fabrication of customized Drone Sprayer for agriculture fields	12.09.2023
Dr.K.Murahari	Design and Fabrication of post processing tool for 3D components	27.09.2023

Dr.S.Pichi Reddy	Design And Fabrication of Smart Stair Climbing Wheel chair	12.09.2023
Dr.P.V.Chandra Sekhar Rao	Fabrication and Testing of Various Hybrid Composites Using Jute, Pineapple And Sisal Fiber	27.09.2023

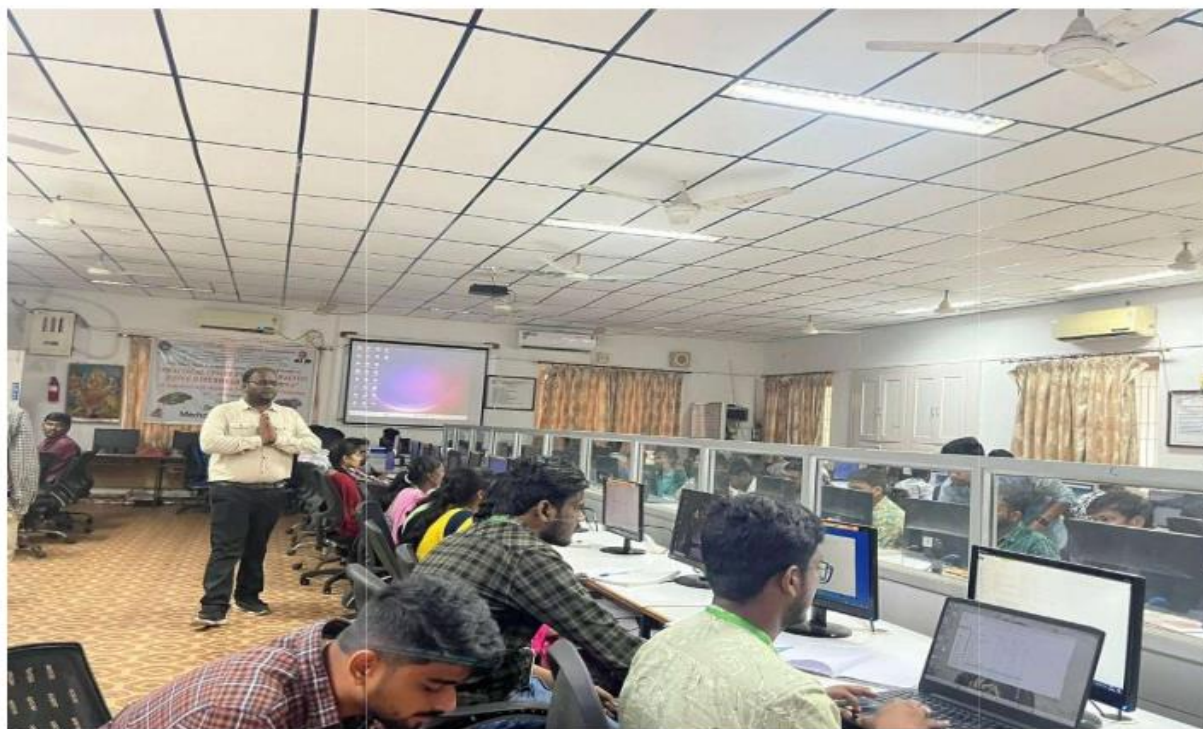
EVENTS ORGANIZED BY THE DEPARTMENT

STUDENT CERTIFICATION PROGRAM

- The Department of Mechanical Engineering, organized a Student Certification Program on **“Student Certification Program on Practical Finite Element Analysis using HYPERMESH and LS DYNA”** from 07/09/2023 to 16/09/2023 with the total number of participants of 131 students.



Students in Hypermesh practice session



Resource person interaction with students

- The Department of Mechanical Engineering, organized a two week Skill Advanced Course on **“Electric & Solar Vehicle-Design & Development”** from 07/08/2023 to 12/08/2023 and 19/09/2023 to 23/09/2023 coordinated by Mr. S. Rami Reddy, Sr. Assistant Professor.



V Sem Students participation in Skill Advanced Course



Students modeling components using Solid Works

- The Department of Mechanical Engineering, organized a Technical Quiz “**Auto Quiz 2023**” organized by **Automobile Club** Incharge Dr. P.Ravindra Kumar, Professor and Mr. S.Rami Reddy, Sr. Asst. Professor on 15/09/2023.



**First Prize winner : 22765A0325
R.VENKATESWARLU**



**Second Prize winner: 21761A0323
R.V.S.GANESH**

COLLABORATIONS / LINKAGES

Name of the Faculty	Name of the Researcher	Name of the Institute	Duration
Dr.K.Murahari	Dr.M. Krishna Kishore	SVNIT Surat	4 Years (upto June 2025)

FDP's/STTP's/STC's/WORKSHOP's ATTENDED BY FACULTY

1. Mr. S. Srinivasa Reddy (Jr) has participated in a program on “**Instructional Design and Delivery System**” organized by LBRCE, Mylavaram, from 3rd July 2023 to 7th July 2023.
2. Mr. Mallikarjuna Rao Dandu has participated in a program on “**Instructional Design and Delivery System**” organized by LBRCE, Mylavaram, from 3rd July 2023 to 7th July 2023.
3. Mr. K. Venkateswara Reddy has participated in a program on “**Instructional Design and Delivery System**” organized by LBRCE, Mylavaram, from 3rd July 2023 to 7th July 2023.
4. Dr. Ch. Siva Sankara Babu has participated in a 10-day program on “**Practical Finite Element Analysis using Hypermesh & LS-DYNA**” organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.

5. Dr. B. Sudheer Kumar *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.
6. Mr. K. Lakshmi Prasad *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.
7. Mr. V. Sankararao *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.
8. Mr. D. Mallikarjuna Rao *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.
9. Mr. A. Dhanunjay Kumar *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.
10. Mr. K. Venkateswara Reddy *has participated in a 10-day program on “Practical Finite Element Analysis using Hypermesh & LS-DYNA”* organized by Mayinkrish Ventures Pvt. Ltd., Hyderabad, from 07-09-2023 to 16-09-2023.

PATENTS PUBLISHED

Name of the Inventors	Patent Number	Title of the Patent	Agency	Date of Published
Sudheer Kumar Battula	202341042495	A Control System for Internal Combustion Engines Utilizing Flexible Alternative Fuels and Method Thereof	Indian Patent	Intellectual Property of India

ACKNOWLEDGEMENTS

The department expresses sincere thanks to all faculty, technical staff and students for contribution towards the technical magazine- mech pulse.

Editorial Board

Dr.S.Pichi Reddy

Mr.J. Subba Reddy

Mr.K.V.Viswanadh

Mr.V Sankara Rao

Mr.T.Thoshan Durga Sai

Mr.M.Gowtham

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