



Mechanical Engineering

Department Magazine
A:Y: 2023-24

MECH CONNECT



CHAIRMAN

Sri K. Venu Gopal

It's my pleasure to invite you to this campus, which is abundantly endowed by nature and sufficiently enriched with our abiding commitment to quality and values. I am sure it will be a pleasant and enlightening experience for you to explore the treasures for yourself.



SECRETARY

Sri K. Sai Rohith

we from RCE thrive every day in providing the highest quality education, placements and skill sets for our students, which go in parallel with a fastmoving enironment



PRINCIPAL

Dr. V. Srinivasa Rao

It is my pleasure to express about your study for a career at RCE. A unique place with state-of-the-art infrastructure and equipment on cutting-edge technologies with knowledge transfer by experienced faculty and technical staff. Having chosen to study at RCE, It will make you competent in advanced technologies along with scheduled training programs throughout the course. The present era of technical careers focuses on multi-disciplinary activities which makes the identity of one's career. So, I promise the above are fulfilled at RCE. I welcome you all, to this distinguished campus to transform your lives.

INSTITUTE VISION

To emerge as a “Centre of excellence” offering high quality Technical Education and Research Opportunities to learners and also develop complete personality of graduates with good communication, discipline, lifelong learning, leadership qualities, ethics and global standards there by making them professionally deft and intellectually adept to contribute for the advancement of environment and society.

INSTITUTE MISSION

- To impart high quality technical education by providing the state-of-the art infrastructure, core instruction and well experienced and qualified faculty.
- To develop highly motivated engineering professionals with good knowledge, communication skills, human and ethical values, requisite skills and competence.
- To produce highly successful graduates who can contribute to the profession to resolve the societal and environmental issues in the society.

DEPARTMENT VISION

To become a centre of excellence in the field of Mechanical Engineering by providing quality technical education and research to learners and solve social and environmental problems by developing innovative and creative skills in them and make the graduates employable along with lifelong learning, leadership and entrepreneurial skills.

DEPARTMENT MISSION

To provide a platform to the aspiring mechanical engineers to attain quality education by utilizing the state of art Infrastructure, Innovative teaching methods and eminent faculty. To empower students with innovative and research skills to attain opportunities in Mechanical Engineering field and be solution providers with a lifelong learning attitude. To equip the learners with a sense of ethical and professional responsibilities towards society and environment along with leadership and entrepreneurial skills.

DEPARTMENT PEO'S

PEO-1: Gain the knowledge of principles in applied and basic engineering sciences which are necessary to formulate and solve problems related to Mechanical

PEO-2: Engineering.

Apply analysis, design, optimization and implementation skills in order to

PEO-3: formulate and solve Mechanical Engineering problems.

Develop the latest skills in cutting edge technologies and modern tools to

PEO-4: simulate the real time problems without experimentation.

Develop their managerial and Entrepreneur skills, Ethical and Professional skills and Art of multi-disciplinary approach and team work to solve the problems of

PEO-5: industry and society.

Recognize the needs of the future world of science & technology especially Mechanical Engineering and engage themselves in lifelong learning and research.

DEPARTMENT PSO'S

U.G PSOs

PSO-1: An ability to analyze, design and evaluate mechanical components and systems using state-of-the-art software tools needed for Mechanical Engineers as demanded by the industries from time to time.

PSO-2: An ability to work in operation and Maintenance plants of manufacturing and other sectors

PSO-3: Imbibing confidence to design, redesign, produce and reproduce the Mechanical Engineering components at any scale

P.G PSOs

PSO 1 : Prepare process sheets and working drawings to manufacture a machine element.

PSO 2 : Model, simulate, analyze and optimize mechanical systems / processes through application of software.

DEPARTMENT PO'S

PO NO

PROGRAM OUTCOME

- PO-1 Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and Engineering specializations to the solution of complex engineering problems.
- PO-2 Problem Analysis:** Identify, Formulate, review research literature and analyze complex engineering problems to arrive at substantiated conclusions using first principles of mathematics, natural and engineering sciences.
- PO-3 Design/Development of Solutions:** Design solutions for complex engineering problems and design system components, processes to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO-4 Conduct Investigations of Complex Problems:** Use research-based knowledge including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO-5 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 and understanding of the limitations.
- PO-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
- PO-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
- PO-8 Ethics:** Apply Ethical Principles and commit to professional ethics and responsibilities and norms of the engineering practice
- PO-9 Individual and Team Work:** Function effectively as an individual and as a member or leader in teams and in multidisciplinary Settings
- PO-10 Communication:** Communicate effectively with the engineering community and with society at large. Be able to comprehend and write effective reports documentation. Make effective presentations, and give and receive clear instructions.
- PO-11 Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team. Manage projects in multidisciplinary environments.
- PO-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.



ABOUT COLLEGE

The Founders of RATNAM EDUCATIONAL INSTITUTIONS of Nellore, Committed to excellence established Ramachandra College of Engineering in Eluru. RCE, is approved by AICTE and affiliated to JNTU Kakinada. The institute boasts of the State-of the Art facilities, well built infrastructure and a serene lush green naturally landscaped sprawling campus far from the hustle and bustle of the town, providing congenial environment for learning. RCE has a team of highly experienced, well qualified and dedicated faculty members in all disciplines. In addition, RCE organizes guest lectures by eminent professors, experts from industry to the students in their respective areas of specialization .The aim of RCE is to attain national prominence providing outstanding education in the field of computing for their productive careers in industry, academia, and government. The institute boasts in the state of the art facilities. Right from the inception the institute is attaining High pass percentage of above 60% with majority of them securing distinctions. The institute is aiming to implement e-Learning in the campus. The institute has signed MOUs with Various Multinational company's like TATA , Reliance HR solutions etc which helps the students to visit the Industries and get practical experience. Every department in the institute has Technology forums & hobby clubs for students for knowledge transfer. To strike the balance between knowledge is power and health is wealth excellent facilities with standards for all kinds of indoor & outdoor games & sports with trainers are made available for the students.

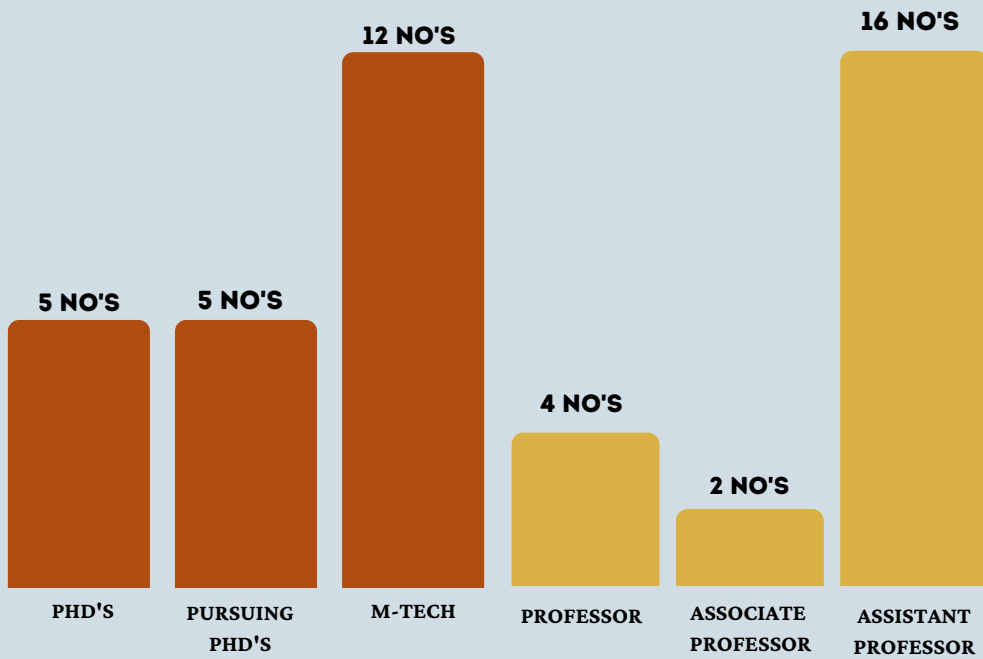


ABOUT DEPARTMENT

Welcome to the Department of Mechanical Engineering at RCEE. We began our voyage in the middle of 2011 with the intake of 60 seats and it was enhanced to 120 seats in the year 2012. The Department pursues expertise based designing educational programs surrounded by JNTUK and essential focal point of the educational program is to grant specialized ability to understudies with hands-on preparation in the research centers, advance their critical thinking aptitudes and development of new innovations. The Department keeps up dynamic research by urging workforce and understudies to complete synergistic and interdisciplinary research. Department has given chances to both faculty and understudies to embrace innovative improvements and the department keeps up dynamic research by urging workforce and understudies with utmost dedication. Subsidizing from different Government/Non Government bodies helps us to explore. Our Department contributes in tackling the mechanical difficulties of the general public and I urge you to investigate our site for further subtleties.

OUR DEPARTMENT FACULTY MEMBERS

NAME	DESIGNATION
1. Dr. V. Srinivasa Rao [M.Tech,Ph.d]	Principal & Professor
2. Dr. Bazani Shaik [M.Tech,Ph.d]	HOD& professor
3.Dr. M. Muralidhara Rao	Professor
4.Mr.B.Sudhakara Rao [M.Tech,(Ph.d)]	Associate professor
5.Dr. Raffi Mohammed [M.Tech,Ph.d]	Professor
6.Dr.K.Anand Babu [M.Tech,Ph.d]	professor
7.Mr.KPVSR Vinay Kumar [M.Tech]	Assistant professor
8. Mr. G. Chitti Babu [M.Tech,(Ph.d)]	Assistant professor
9.Mr. A. Rahul Kumar [M.Tech,(Ph.d)]	Assistant professor
10. Mr. J. Srikanth [M.Tech,(Ph.d)]	Assistant professor
11.Mr. K. Bhavanarayana [M.Tech,(Ph.d)]	Assistant professor
12. Mrs. P. Lakshmi kala [M.Tech]	Assistant professor
13. Mr. Y. Hemanth [M.Tech]	Assistant professor
14. Mr. G.V. Phani Babu [M.Tech]	Assistant professor
15. Mrs. P. Naga Sravani [M.Tech]	Assistant professor
16. Mr. S. Suneel Kumar [M.Tech]	Assistant professor
17.Mr. P. Bhargava Kumar [M.Tech]	Assistant professor
18. Mrs. B. Devi Priyanka [M.Tech]	Assistant professor
19. Mr. R. Sai Ram [M.Tech]	Assistant professor
20. Mr. SK. Meeravali [M.Tech]	Assistant professor
21. Mrs. O. Pavitra [M.Tech]	Assistant professor
22. Mrs. K. Ravindranath [M.Tech]	Assistant professor



FACULTY ACHIEVEMENTS

The faculty members of the Department of Mechanical Engineering have made significant academic contributions in the academic year 2023–24, with an impressive total of 24 publications, including research papers, books, and book chapters in reputed national and international platforms.

This achievement reflects the department's strong commitment to research, innovation, and academic excellence. The management congratulates all the contributing faculty members for their dedication and encourages continued efforts in advancing knowledge and technology.

- 12 Research Papers in peer-reviewed national and international journals covering diverse areas such as thermal engineering, design optimization, renewable energy, advanced manufacturing, and robotics.
- 10 Book Chapters published in reputed international edited volumes by leading publishers, highlighting innovative research outcomes and interdisciplinary collaborations.
- 2 Technical Book authored and published in the area of "Sustainable Product Design", serving as a valuable academic resource for students and researchers alike.

These scholarly activities reflect the department's strong focus on quality research, academic excellence, and contribution to global knowledge. The faculty's work not only enhances the reputation of the institution but also serves as inspiration for students to pursue research-oriented careers.

The management and academic leadership of Ramachandra College of Engineering extend heartfelt congratulations to all faculty members involved and look forward to many more such accomplishments in the future.

STUDENT ACHIEVEMENTS

RCE MECHANIZERS

ACQUIRED

RAMACHANDRA
COLLEGE OF ENGINEERING
AUTONOMOUS

1ST PLACE
FOR BEST INNOVATION
& BUSINESS IDEA

**PRO
KARTING
CHAMPIONSHIP
2024!**



We are proud to announce that the students of the Department of Mechanical Engineering have showcased their talent and innovation by winning the "Best Innovation in Business Idea" category at the prestigious Pro Karting Championship held at Aditya college of Engineering, Kakinada.

The team demonstrated exceptional technical and entrepreneurial skills by presenting a unique and impactful business concept centered around sustainable mobility solutions. Their innovation was recognized for its creativity, practical feasibility, and potential to drive future advancements in the automotive sector.

DEPT OF MECHANICAL ENGINEERING LABS



ENGINEERING WORKSHOP



COMPUTER AIDED MANUFACTURING LAB



MECHANICS OF SOLIDS LAB



METALLURGY AND MATERIAL SCIENCE LAB



MACHINE TOOLS LAB



COMPUTER AIDED DRAFTING LAB



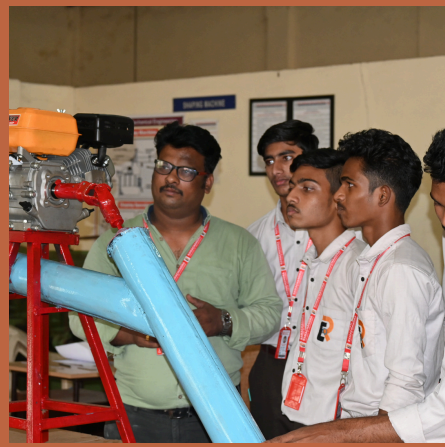
FLUID MECHANICS AND HYDRAULICS MACHINERY LAB



THEORY OF MACHINES LAB



THERMAL ENGINEERING LAB



DYNAMICS OF MACHINERY LAB



METROLOGY & INSTRUMENTATION LAB



3D-PRINTING LAB



HEAT TRANSFER LAB

**WELL EQUIPPED WITH
ADVANCED
LABS**

3DEXPERIENCE® Lab

**DASSAULT
SYSTEMES**




**Skill AP
APSSDC**

DEPARTMENTAL PROJECT EXPO

The Department of Mechanical Engineering has successfully organized a Project Review Session under the banner of its vibrant student association, MECHANIZERS. The event aimed to provide a platform for final-year students to present their innovative project ideas and technical models before a panel of faculty members and industry experts.



GUEST LECTURES



RAMACHANDRA
COLLEGE OF ENGINEERING

NH-16 Bypass Road, Vaturlu (V), Eluru- 534007, Eluru Dt., A.P.


Approved by AICTE, New Delhi
Permanently Affiliated to JNTUK
Recognized by UGC 2(F) & 12(B)
ACCREDITED
"NAAC A"
NBA (EEE, CIVIL, MECH, ECE & CSE)
ISO 9001 : 2015 Certified


GUEST LECTURE
ON
...
ADVANCED INVESTIGATION IN DEFLECTION OF BEAMS


Resource Person
Mr.G.Suresh Babu


Department of Mechanical Engineering

Coordinator
Dr.Bazani Shaik









As part of its continuous commitment to academic excellence and industry-oriented learning, the Department of Mechanical Engineering successfully organized a Guest Lecture on "Advanced Investigation in Deflection of Beams", a core topic from the subject Mechanics of Solids, during the academic year 2023–24.

The session was conducted by an esteemed expert in the field of structural mechanics and provided in-depth insights into the theoretical and practical aspects of beam deflection analysis, advanced methods of calculation, real-time structural applications, and the role of beam deflection in modern engineering design.







RAMACHANDRA
COLLEGE OF ENGINEERING

NH-16 Bypass Road, Vaturlu (V), Eluru- 534007, Eluru Dt., A.P.

Approved by AICTE, New Delhi
Permanently Affiliated to JNTUK
Recognized by UGC (R/F) & 12(B)
ACCREDITED
NAAC 'A'
NBA (EE, CIVIL, MECH, ECE & CHE)
ISO 9001 : 2015 Certified

**Guest Lecture
ON
Recent Developments
of Machine Design**

Resourse Person
Mr.G.Suresh

Date : 03-12-2022

Coordinator : Mr.J Srikanth
Department of Mechanical Engineering



The session was conducted by Mr. G. Suresh, an expert in the field of mechanical systems and structural analysis. The lecture provided a comprehensive overview of analytical and numerical methods in beam deflection, followed by an in-depth discussion on the latest innovations and trends in machine design, including smart materials, optimization techniques, and CAD/CAM integration.

The lecture was highly beneficial to students in understanding the practical applications of theoretical concepts and gaining exposure to emerging technologies in design engineering. The event fostered technical curiosity, critical thinking, and industry relevance among participants.

The department extends heartfelt thanks to Mr. G. Suresh for his valuable contribution and acknowledges the efforts of faculty and students that led to the success of the event.





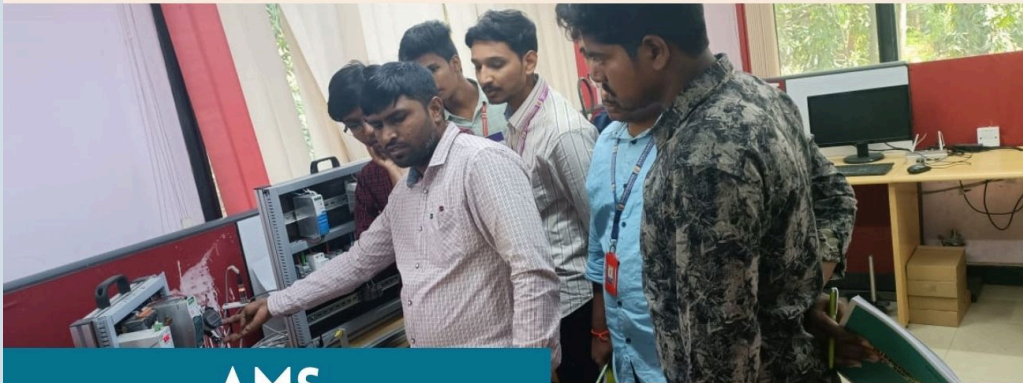
INDUSTRIAL VISITS



TITLES OF FINAL YEAR PROJECTS

- 1. Fire And Anti-Collision Accident Prevention System for Compact Vehicle.**
- 2. Design Structural Analysis and Development of Four-Wheeler Chassis.**
- 3. Design And Fabrication of Front Wheel Guided Steering System For Four-Wheel Vehicle.**
- 4. Development And Mechanical Characterisation of Epoxy-Based Hybrid Composites Reinforced With E-Glass Fibre and Filled with Crab Shell Ash.**
- 5. Dry, Wet, And Metal Waste Detecting Smart Bin For Waste Management System.**
- 6. Fabrication Of High-Capacity Disinfectant Electro-Mechanical Spraying Machine for Large Public Spaces.**
- 7. PV Grid-Based Solar Track System.**
- 8. Performance And Emission Characteristics of an Engine Using Blended Bio Diesel with Additives.**
- 9. Evaluation Of Mechanical Properties on Al7075 Reinforced with Hybrid Nano Composites.**
- 10. Design And Fabrication of Pipe Inspection Robot Using Smartphone Controlling.**
- 11. Design And Manufacturing Of Solar-Powered Seed Sowing Machine.**
- 12. Fabrication And Mechanical Behaviour of Al7075 Reinforced with Hybrid Nano Composites.**
- 13. Development Of Regenerative Braking System in Electrical Vehicles.**

ADVANCED MECHANICAL TOOLS TRAINING PROGRAM



AMS TRAINING PROGRAM





NSS PROGRAMS ORGANIZED BY OUR STUDENTS



AIR POLLUTION AWARENESS & SERVICE PROGRAM



ACADEMIC TOPERS LIST

2022-23 EVEN SEM

I YEAR II SEM

I TOPPER	22ME1A0322	MUDILI SANDEEP	7.62 SGPA
II TOPPER	22ME1A0332	S.L.L.S. MANIKANTA	7.23 SGPA
III TOPPER	22ME1A0335	T.V.V.B.S.D.S VAMSI	7.15 SGPA
III TOPPER	22ME1A0313	KESA BHARGAV	7.15 SGPA

II YEAR II SEM

I TOPPER	21ME1A0318	P. VIJAY BABU	8.26 SGPA
II TOPPER	22ME5A0313	P.G.S.PRASANTH	8.19 SGPA
III TOPPER	22ME5A0308	KARRI SIVA	7.91 SGPA

III YEAR II SEM

I TOPPER	20ME1A0344	SK.IMRAN BASHA	8.19 SGPA
II TOPPER	20ME1A0332	N.SAI CHARAN	7.77 SGPA
III TOPPER	20ME1A0327	M.G.V.PHANINDRA SAI	7.07 SGPA

IV YEAR II SEM

I TOPPER	19ME1A0301	A.JAGADEESH	8.8 SGPA
II TOPPER	19ME1A0359	N.ANANTH KUMAR	8.65 SGPA
III TOPPER	19ME1A0377	T.NAVEEN KUMAR	8.5 SGPA

ACADEMIC TOPERS LIST

2023-24 ODD SEM

I YEAR I SEM

I TOPPER	23ME1A0321	K.N.RAMASWAMY	8.07 SGPA
II TOPPER	23ME1A0327	N.PAVAN SAI	7.93 SGPA
III TOPPER	23ME1A0322	L.RAJA BABU	7.71 SGPA

II YEAR I SEM

I TOPPER	22ME1A0330	PUJARI MANOHA	7.89 SGPA
II TOPPER	23ME5A0312	A.RAM CHANDU	7.79 SGPA
III TOPPER	22ME1A0315	K.SATISH BABU	7.74 SGPA

III YEAR I SEM

I TOPPER	21ME1A0304	B. DHANUSH	7.25 SGPA
II TOPPER	21ME1A0318	P. VIJAY BABU	6.98 SGPA
III TOPPER	22ME5A0315	S. RAVI TEJA	6.63 SGPA

IV YEAR I SEM

I TOPPER	20ME1A0333	N.V.S.D.S.KARTHIK	7.52 SGPA
II TOPPER	20ME1A0336	PALANGI RAJESH	7.26 SGPA
III TOPPER	20ME1A0345	SHAIK SHAFFI	7.13 SGPA

2023-24 PLACEMENT DETAILS

S.No	Industry Name	No.of Students Selected
1.	RAAM GROUP	06
2.	LEVIVAAN SOLUTIONS PVT LTD	10
3.	LAKSHMI HYUNDA PVT LMTD	06
4.	KAPSTON PVT LMTD	05
5.	LOKESH MACHINE TOOLS	06
6.	WOOSU PVT LMTD	02
5.	COCO COLA PVT LMTD	01

HIGHLIGHTS OF RCE

The Best in **ELURU** district. RCEE is now **AUTONOMOUS**

- PART OF 15 YEARS OLD EXCEPTIONAL EDUCATION LEGACY OF RCE
- OUTSTANDING RECORD OF PLACEMENTS
- POOL OF ILLUSTRIOUS FACULTY WITH 27 DOCTORATES
- ENTREPRENEURIAL SENSITIZATION WITH THE SUPPORT OF DST, GOVT OF INDIA STRONG AND RESOURCEFUL NETWORK OF ALUMNI
- FOCUS ON ALL ROUND DEVELOPMENT BY CO CURRICULAR AND EXTRACURRICULAR ACTIVITIES, STUDENTS PERFORM EXCEPTIONALLY WELL IN INTER AND INTRA COLLEGE COMPETITIONS.
- SCINTILLATING SPORTS FACILITIES WITH CRICKET GROUND, FOOTBALL GROUND, VOLLEYBALL COURT AND MANY INDOOR SPORTS.
- APPROVED BUSINESS INCUBATION CENTRE BY MSME, GOVT. OF INDIA.
- ACCREDITED BY NBA & NAAC.
- AWARDED FOR EDUCATION EXCELLENCE, INDUSTRY INTERACTION AND PLACEMENTS.
- STRONG FOCUS ON TECHNICAL AND SOFT SKILLS TRAINING, ENHANCING EMPLOYABILITY OF STUDENTS.
- TECHNOLOGY BASED INDUSTRIAL COLLABORATION VIA CENTRE OF EXCELLENCE, DASSAULT SYSTEMS.
- REGULAR EXPERT TALKS, NATIONAL & INTERNATIONAL SEMINARS, CONFERENCES WITH RENOWNED SPEAKERS FROM INDUSTRY AND ACADEMIA.
- THE ONLY PRIVATE INSTITUTE IN WHOLE ELURU DISTRICT TO RECEIVE NEW GENERATION INNOVATION & ENTREPRENEURSHIP DEVELOPMENT CENTRE SUPPORTED BY DST, GOVT OF INDIA
- RCE IS RECOGNIZED IN THE BAND PROMISING UNDER THE CATEGORY COLLEGE/ INSTITUTES (PRIVATE/SELF FINANCED)(TECHNICAL) IN ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENT (ARIIA) ANNOUNCED BY THE MINISTRY OF EDUCATION GOVERNMENT OF INDIA.
- RCE-STUDENT R&D FACILITATION CENTRE SUPPORTS TO TURN STUDENTS IN TO INNOVATOR AND ENTREPRENEUR

HIGHLIGHTS OF MECHANICAL ENGINEERING

Innovation and Technological Advancement: Mechanical engineering is at the forefront of technological innovation and advancement. It encompasses various fields such as robotics, automation, materials science, thermodynamics, and fluid mechanics. Mechanical engineers develop new technologies, improve existing systems, and drive innovation in industries like automotive, aerospace, energy, manufacturing, and many others.

Design and Manufacturing: Mechanical engineers are responsible for designing and manufacturing a wide range of products, from small consumer goods to large-scale industrial machinery. Their knowledge of mechanics, materials, and production processes enables them to create efficient, reliable, and cost-effective designs.

Energy and Sustainability: Mechanical engineers play a critical role in addressing global energy challenges and promoting sustainability. They design and optimize energy systems, including renewable energy technologies, such as wind turbines and solar panels.

Infrastructure Development: Mechanical engineers are involved in the design, construction, and maintenance of infrastructure projects like bridges, buildings, tunnels, and transportation networks. They ensure that these structures are safe, durable, and functional.

Interdisciplinary Collaboration: Mechanical engineering is a versatile field that often requires collaboration with professionals from various disciplines. Mechanical engineers work closely with electrical engineers, computer scientists, civil engineers, and other specialists to develop complex systems and integrated technologies.

Job Opportunities and Economic Growth: Mechanical engineering offers a wide range of career opportunities. Graduates can work in diverse industries, including automotive, aerospace, energy, manufacturing, biomedical, consulting, and research. The demand for skilled mechanical engineers is consistently high, both in developed and emerging economies. The growth of the mechanical engineering sector contributes to job creation, economic stability, and technological progress.

MECHANICAL ENGINEERING CAREER PERSPECTIVES

GOVT JOBS



CORE JOBS



SOFTWARE JOBS



HIGHER STUDIES

M-TECH

M.S

MBA

JRF

ETC.,

CAMPUS LIFE



MECH CONNECT EDITORIAL BOARD

Faculty Members



Dr. Bazani Shaik
Professor
Editor In Chlef



Mr. B. Sudhakara Rao
Associate Professor
Editor



Dr. Raffi Mohammad
Professor
Editor

Student Members



Mr. N. Sai Charan
20ME1A0332
Final Year



Mr. SK. Imran Basha
20ME1A0344
Final Year



Mr. Mohammed Shafi
22ME5A0312
Third Year



Mr. P. Vijay Babu
21ME1A0318
Third Year



Mr. K. Satish Babu
22ME1A0315
Second Year



Mr. B. Gnaneswar
22ME1A0304
Second Year



Mr. G. Rajesh
24ME5A0304
First Year



Mr. B. H. Vardhan
23ME1A0331
First Year