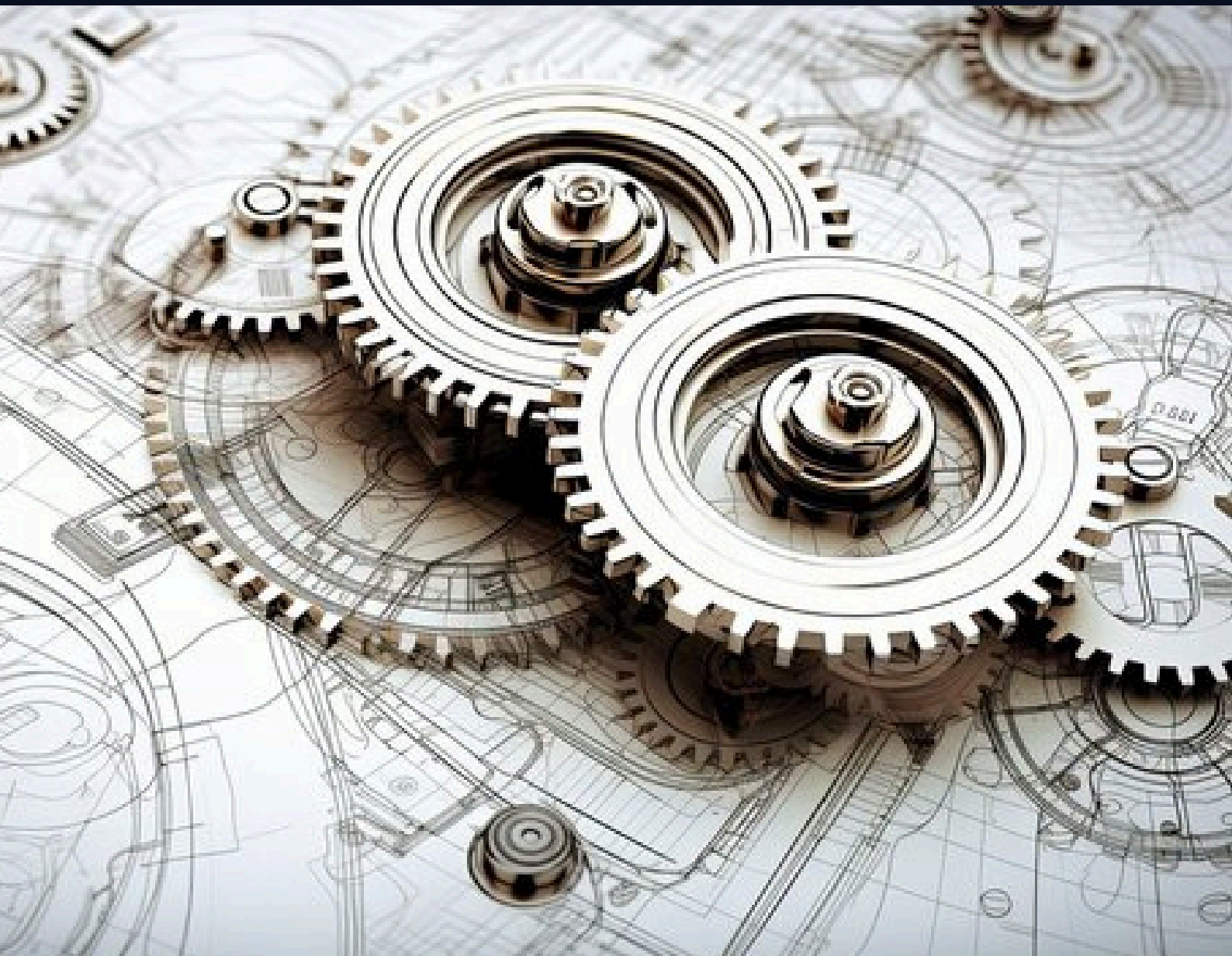


DEPARTMENT OF MECHANICAL ENGINEERING

THE MECH CHRONICLE

MAGAZINE

2022-2023



ISO 9001 : 2015 Certified Institution

CODE URCE



USHARAMA

COLLEGE OF ENGINEERING AND TECHNOLOGY

AUTONOMOUS

On NH-16, Telaprolu, Near Gannavaram, Krishna District - 521109.

PH: 91777 12255, 99497 12255, 0866-2527558 www.usharama.edu.in

About the College

Usha Rama College of Engineering and Technology, established by Usha Rama Educational Academy, with the aim of inculcating quality education to students and produce young technocrats having good knowledge. The college is approved by AICTE and affiliated to JNTU-Kakinada. It is sponsored by Chicago based Multi-Million Dollar Advansoft group.

Advansoft Group made an extensive study of the functioning of premier educational institutions in India and abroad and had an extensive consultation with Industry, academicians and scholars, the efforts of which finally culminated in laying the foundation for the college in 2008. Even before the college commenced its functioning, an elaborate plan was drawn up for acclimatizing and absorbing the students predominantly hailing from a rural background, into an environment demanding learning of frontier technologies.

The Trust comprises a team of highly respected professionals in the field of Academics, Management and Industry, dedicated to creating an Institution imparting quality education. Usha Rama College of Engineering and Technology is well supported by a governing body and an academic advisory council consisting of eminent academicians and professors with decades of experience in premier Institutions.

URCE has within a short span of time emerged as one of the premier professional Institutions in this region. The Institute maintains high standards of education by providing a wide array of world-class academic facilities, employing highly qualified and experienced faculty members and creating an ambience that is conducive to quality education.



INSTITUTE VISION

To emerge as a centre of excellence in technical education by imparting quality teaching learning practices and research for the transformation of society.

INSTITUTE MISSION

- **Provide an ideal and the best class infrastructure to foster exploration in engineering and research.**
- **Build dedicated faculty with student centric teaching incorporating experiential, innovative skills.**
- **Encourage lifelong learning, entrepreneurial thinking and ethical responsibility in students to address societal challenges.**

DEPARTMENT VISION

To impart quality education in the field of Mechanical Engineering to meet the industrial standards and technological needs of the society.

DEPARTMENT MISSION

- **To provide quality education for career building and skill enhancement and to become globally competitive.**
- **To groom the students with leadership qualities, problem solving approach, along with team work and effective communication.**
- **To promote higher education, entrepreneurship skills, research cum innovation with a focus on industrial and societal needs and to mould the students with professional ethics and moral values.**

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: To train the graduates in building a successful professional career in Mechanical Engineering.

PEO 2: To encourage the graduate engineers to achieve their goals through higher education and Research & Development activities.

PEO 3: To support the graduates to become moral & ethically responsible citizens in the development of the nation.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Apply Engineering fundamental knowledge, complex mathematics, science and provide solutions to mechanical Engineering system.

PSO2: Design and develop products innovatively with modern tools and to optimize manufacturing processes.

Programme Outcomes (POs)

PO - 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO - 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.

PO - 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.

PO - 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.

PO - 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.

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 diverse teams, and in multidisciplinary settings.

PO - 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.

PO - 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.

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.

PUBLICATIONS BY FACULTY

Journal Publications

1. Dr. R. Bhargavi, “High Band Width Millimetre Wave Dual Band Silver Nano Antenna Array for 5G Applications” Neuroquantology, November 2022, Volume 20, Issue 17, Page 2301-2311.

Conferences

NILL

RESOURCE PERSONS IN STTPS/FDPS

Dr. S. Madhusudan

“SHORT TERM COURSE Overview of Composites with Research Perspective” Dept. of ME., Tirumala Engineering College Narasaraopet, Guntur District, Andhra Pradesh, 15th -19th June 2022.

Dr. S. Madhusudan

“Recent advances in mechanical engineering- (RAME)” at Dept. of ME., Godavari Institute of Engineering and Technology, Rajamahendravaram, Andhra Pradesh, 4th to 8th August 2022.

Dr. R. Bhargavi

“Advanced materials processing and Characterization methods” Dept. of ME., Tirumala Engineering College Narasaraopet, Guntur District, Andhra Pradesh, 13th – 17th Feb 2023.

Dr. B. Kiran Babu

“Materials: Processing and Applications” Dept. of ME., VKR, VNB & AGK College of Engineering, Gudivada, Andhra Pradesh, 18th March 2023

EVENTS ORGANIZED BY THE DEPARTMENT

FACULTY DEVELOPMENT PROGRAM / SHORT TERM TRAINING PROGRAM ORGANIZED

Six days FDP on “Future Prospects of Hybrid Vehicles” on 21st -26th NOV 2022.

Key note speakers are:

1. Dr. I. Satish Kumar, Assistant Professor, NIT, Warangal.
2. Dr. B. Bala Krishna, Professor, JNTUK, Kakinada.
3. Dr. M. Sri Rama Murthy, Professor, Sir. C. R. Reddy College of Engineering, Eluru.
4. Dr. B. Raghu Kumar, Professor, P.V.P.S.I.T, Vijayawada, AP.
5. Dr. P. Srinivas Kishore, Professor, Andhra University, Visakhapatnam, AP.
6. Dr. T. Jayanand, Professor, Godavari Institute of Engineering, Dept. of M.E., Rajahmundry, AP.

Six days FDP on “Advances in Manufacturing Processes” on 24th - 29th April, 2023.

Key note speakers are:

1. Dr. P. Vamsi Krishna, Associate Professor, NIT, Warangal.
2. Dr. V.V.S. Prasad, Professor, Andhra University, Visakhapatnam, AP.
3. Dr. Syed Kamalludin, Professor, Vignan University, Visakhapatnam, AP.
4. Dr. P.S. Rama Srikanth, Professor, Dean School of ME, VIT, AP.
5. Dr. K. Murahari, Professor, L.B.R.C.E, Dept. of ME, Mylavaram, AP.
6. Dr. Abid Ali, Professor, Dept. of M.E., Potti Sriramulu College of Engineering, Vijayawada.

WORKSHOPS/SEMINARS

1. A Seminar on "Seminar on Renewable Energy Technologies in Mechanical Systems " by Dr. M. Sri Rama Murthy, Professor, Sir. C. R. Reddy College of Engineering, Eluru, AP, for ME students on 01/10/2022.
2. One week training program on " CNC Programming & Machining " by Pathan Mahabub Khan, Trainer, association with APSSDC at Andhra Loyola Institute of Engineering and Technology, Vijayawada, for III BTech ME students on 26/12/2022 to 30/12/2022.

3. A One-week training program on " AutoCAD " by Prasanna Lakshmi, Trainer, association with APSSDC, at Usha Rama college of Engineering and Technology (Autonomous) for ME students on 03/01/2023 to 07/01/2023.
4. A Seminar on " Smart Materials and Their Applications " Dr. P.S. Rama Srikanth, Professor, Dean School of ME, VIT, AP. for ME students on 16/02/2023.

FACULTY DEVELOPMENT PROGRAMS ATTENDED

1. Dr B. Kiran Babu, 5-days online FDP on “Emerging Trends in Mechanical Engineering” organized by the Department of Mechanical Engineering, Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru, Krishna (Dt.), Andhra Pradesh, India organized from 20/6/2022 to 25/6/2022.
2. N. Siva Krishna, J Ashok Kumar, Rahul G. Karmakar 5-days online FDP on “Emerging Trends in Mechanical Engineering” organized by the Department of Mechanical Engineering, Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru, Krishna (Dt.), Andhra Pradesh, India organized from 20/6/2022 to 25/6/2022.
3. Dr. S. Madhusudan, 5-day Online FDP on the theme “Research Opportunities & Funding Agencies” organized by Krishna University from 27/6/2022 to 02/7/2022.
4. Dr. R. Bhargavi, 5-day Online FDP on the theme “Research Opportunities & Funding Agencies” organized by Krishna University from 27/6/2022 to 02/7/2022.
5. Dr B. Kiran Babu, A one-week online FDP on “Advancement in Thermal and Renewable Energy Technology” organized by the Department of Mechanical Engineering, Lakireddy Bali Reddy College of Engineering, Mylavaram, Krishna (Dt.), Andhra Pradesh, India organized from 04/7/2022 to 09/7/2022.
6. CH. Venkata Krishna, Nawab Masid Abdul, N. Siva Krishna A one-week online FDP on “Advancement in Thermal and Renewable Energy Technology” organized by the Department of Mechanical Engineering, Lakireddy Bali Reddy College of Engineering, Mylavaram, Krishna (Dt.), Andhra Pradesh, India organized from 04/7/2022 to 09/7/2022.
7. K. Vidya, A one-week online FDP on “Hybrid Electric Vehicles” organized by the Department of Mechanical Engineering, GMRIT, Rajam & VRSEC, Vijayawada, India organized from 21/11/2022 to 25/11/2022.

8. Rahul N Karmankar, 5-day Online FDP on the theme “Inculcating Universal Human Values in Technical Education (UHV-I)” organized by All India Council for Technical Education (AICTE) from 05/12/2022 to 09/12/2022.
9. K. Vidya, A one-week online FDP on “Innovations in Mechanical Engineering” organized by the Department of Mechanical Engineering, VVIT, Nambur, Andhra Pradesh, India organized from 26/12/2022 to 30/12/2022.
10. K Vidya, 5-day Online FDP on the theme “Inculcating Universal Human Values in Technical Education (UHV-I)” organized by All India Council for Technical Education (AICTE) from 20/02/2023 to 24/02/2023.
11. J. Ashok Kumar, K. Vidya, Rahul N Karmankar, Dr V Ajay Kumar, 5-day Online FDP on the theme “Inculcating Universal Human Values in Technical Education (UHV-II)” organized by All India Council for Technical Education (AICTE) from 24/04/2023 to 29/04/2023.

CERTIFICATIONS COURSES THROUGH NPTEL

- Ch. V. Krishna, completed a certification course titled, “Introduction to Industry 4.0 and Industrial Internet of Thinking” offered through Swayam - NPTEL during Jan-April 2023.
- J. Ashok Kumar, completed a certification course titled, “Introduction to Industry 4.0 and Industrial Internet of Thinking” offered through Swayam - NPTEL during Jan-April 2023.

INDUSTRIAL VISIT

IV B.Tech. students of Mechanical Engineering visited “PRAKASA SPECTRO CAST(P) LTD ENIKEPADU,”, Vijayawada on 04-11-2022.

III B.Tech. students of Mechanical Engineering visited “PRAKASA SPECTRO CAST(P) LTD ENIKEPADU,”, Vijayawada on 05-11-2022.

IV B.Tech. students of Mechanical Engineering visited “Hindustan Coca-Cola Beverages Private Limited”, Tenali on 24-02-2023.

STUDENTS PARTICIPATIONS IN PROFESSIONAL EVENTS

1. G Vamsi Krishna, N Sai Mani Kowshik, B Pavan Kalyan has participated in the event Project Expo at Andhra Loyola Institute of Engineering and Technology, Vijayawada on 22-08-2022.
2. N Leela Prasad, K Lakshman has participated in the event Project Expo at Andhra Loyola Institute of Engineering and Technology, Vijayawada on 22-08-2022.
3. T Naga Maha Akhilesh, T Pavan Kalyan, T Ratnakar has participated in the event Poster Presentation at Andhra Loyola Institute of Engineering and Technology, Vijayawada on 22-08-2022.
4. M Sasi Kumar, B Vinay Kumar has participated in the event Poster Presentation at Andhra Loyola Institute of Engineering and Technology, Vijayawada on 22-08-2022.
5. D Rambabu, K Durga Prasad, K Srikanth has participated in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-12-2022.
6. N Sai Dinesh, K Ratnakar, M Naga Malleswara Rao has participated in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-12-2022.
7. Y Sriharsha, B Vijay Jeevan Kumar, M Sasi Kumar has participated in the event Poster Presentation at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-12-2022.
8. D Mohan Surya, T Naga Maha Akhilesh, V Leela Naga Sandeep has participated and won 2nd prize in the event Poster Presentation at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-12-2022.
9. M Sasi Kumar, B Vinay Kumar, B Vijay Jeevan Kumar has participated in the event Technical Quiz at Swarnandhra College of Engineering & Technology, on 10-02-2023.
10. M Sasi Kumar, P Vamsi, G Sai Krishna has participated in the event Technical Quiz at Swarnandhra College of Engineering & Technology, on 10-02-2023.
11. M Siva Ramakrishna, T Naga Maha Akhilesh, T Pavan Kalyan has participated in the event Project Expo at Swarnandhra College of Engineering & Technology, on 10-02-2023.
12. T Ratnakar, V Leela Naga Sandeep, A Chennakesava has participated in the event Project Expo at Swarnandhra College of Engineering & Technology, on 10-02-2023.
13. S Suresh, U. Raviteja, K Venkata Narendra Reddy has participated in the event Poster Presentation at Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada on 11-03-2023.

14. K Praveen Tejas, P Vamsi, G Sai Krishna has participated and won 2nd prize in the event Poster Presentation at Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada on 11-03-2023.
15. M Siva Ramakrishna, T Naga Maha Akhilesh, T Pavan Kalyan has participated in the event Technical Quiz at Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada on 11-03-2023.
16. T Ratnakar, M Sasi Kumar, B Vinay Kumar has participated and won 2nd prize in the event Technical Quiz at Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada on 11-03-2023.
17. B Vijay Jeevan Kumar, M Sasi Kumar, D Mohan Surya has participated in the event Project Expo at DNR College of Engineering & Technology, Bhimavaram, Andhra Pradesh on 12-04-2023.
18. T Naga Maha Akhilesh, V Leela Naga Sandeep, A Chennakesava has participated in the event Project Expo at DNR College of Engineering & Technology, Bhimavaram, Andhra Pradesh on 12-04-2023.
19. T Naga Maha Akhilesh, T Pavan Kalyan, T Ratnakar has participated in the event Poster Presentation at DNR College of Engineering & Technology, Bhimavaram, Andhra Pradesh on 12-04-2023.
20. M Sasi Kumar, B Vinay Kumar has participated in the event Poster Presentation at DNR College of Engineering & Technology, Bhimavaram, Andhra Pradesh on 12-04-2023.
21. S Suresh, U. Raviteja has participated and won 2nd prize in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.
22. K Venkata Narendra Reddy, K Praveen Tejas has participated and won 2nd prize in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.
23. P Vamsi, G Sai Krishna has participated in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.
24. M Siva Ramakrishna, T Naga Maha Akhilesh has participated in the event Technical Quiz at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.
25. G Vamsi Krishna, N Sai Mani Kowshik has participated and won 2nd prize in the event Project Expo at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.

26. B Pavan Kalyan, N Leela Prasad has participated and won 2nd prize in the event Project Expo at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.
27. K Lakshman, M Sasi Kumar Prasad has participated in the event Project Expo at Lakireddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh on 28-04-2023.

PUBLICATIONS BY STUDENTS

CONFERNCES

1. G. Vamsi Krishna, G. Chandu, K.B. Prakash, K. Mini Sai “Investigation of Mechanical and Thermal Properties of Bio Polymer using Kenaf Fiber” International Conference on Emerging Trends in Mechanical Engineering and Industrial Automation – 2023, (NEC-ICETMEIA-2023), 09th & 10th June, 2023, at Narasaraopet Engineering College, Andhra Pradesh, India. ISBN No: 978-93-91420-39-0.
2. B Vivek, K Pradeep, K Sai Pavan, K Dineshnadh “Experimental Study on CI Engine Fuelled with Cotton Seed Oil and Diesel Blends” International Conference on Emerging Trends in Mechanical Engineering and Industrial Automation – 2023, (NEC-ICETMEIA-2023), 09th & 10th June, 2023, at Narasaraopet Engineering College, Andhra Pradesh, India. ISBN No: 978-93-91420-39-0.
3. V N Swamy, Y J Krishna, K Sunil, T Teja “Fabrication and Evaluation of Mechanical Properties on Epoxy Resin Based Graphene Nano Particles Composite” won 2nd prize, International Conference on Emerging Trends in Mechanical Engineering and Industrial Automation – 2023, (NEC-ICETMEIA-2023), 09th & 10th June, 2023, at Narasaraopet Engineering College, Andhra Pradesh, India. ISBN No: 978-93-91420-39-0.

Editorial board

Dr S Madhusudan (Editor)

K Vidya (Chief Editor)

Student's Coordinators

N Sai Mani Kowshik (IV Year)

K Likhith Sai (IV Year)

M Sasi Kumar (III Year)

P Kesava Sai Kumar (III Year)

K V Narendra Reddy (II Year)

P Vamsi (II Year)

