



SWARNANDHRA

College of Engineering and Technology
(Autonomous)

Seetharampuram, Narsapur, Andhra Pradesh 534280



MECHAZINE

BI - ANUAL MAGAZINE

DEPARTMENT OF
MECHANICAL ENGINEERING

Editorial Members

1. Dr A Gopichand Hod-Me
2. Dr R. Lalitha Narayana Assoc.Proff- ME

Student Coordinators:

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2. D Niranjan (21A21A0321)

JUNE - 2023

Volume 4 - Issue 1

To educate and enrich effective and responsible Mechanical Engineers to fulfill the needs of industry and society.

ABOUT MECHANICAL DEPARTMENT

"EMPOWERING MINDS, BUILDING FUTURES"



The Department of Mechanical Engineering was established in the academic year 2004. The Department presently offers Under-graduate study program leading to the degree of Bachelor of Mechanical Engineering and Post Graduate program M.Tech CAD/CAM. The initial intake of the department is 60 in UG Programme. Then the Department got approval for additional intake of 30 in 2008 another 30 in 2009, latter 60 more seats were added in 2015 with approval from AICTE for UG Programme. PG Programme - M.Tech. (CAD/CAM) is started in 2009 with an intake of 18. The present intake is 120 in UG and 18 in PG Programmes.

The department was accredited by National Board of Accreditation (NBA) in 2013 and was recognized as research centre by Jawaharlal Nehru Technological University Kakinada (JNTUK) in 2016. The Department has 31 faculty members, 2 research scholars and 16 supporting staff. The department is having highly qualified and experienced faculty in all streams of Mechanical Engineering. 5 faculty members have doctoral degrees and 2 members are pursuing their Ph.D's. The faculty has been active in offering consultancy services to industries and conduct courses regularly to facilitate the continuing education of practicing engineers. About 80 research papers have been published in various International and National Journals/Conferences. The department is very well equipped with computational facilities and resources both in terms of hardware and software.



Department has more than 180 computing systems and workstations loaded with wide range of software products covering all areas of mechanical engineering. The department having DASSAULT System Lab associated with APSSDC. Experimental and computational facilities are being continuously upgraded. The Department has Association of Mechanical Engineering which is a forum for students to develop their professional skills. Students are also encouraged to take part in awareness campaigns that have social relevance. Alumni of the department have occupied very high positions at National and International level.

VISION AND MISSION



Vision: A statement outlining the desired future state or long-term goals of an organization.

Mission: A concise statement defining the purpose, core values, and primary objectives.

Institution Vision

V

"To produce global competent, ethical and dynamic professionals by creating Centre of Excellence in Technical Education for societal empowerment."

Institution Mission

M1

To provide quality education with knowledge and skills for rural and urban students.

M2

To collaborate the industries with academia for empowering the students to meet global standards.

M3

To induce highly ethical entrepreneurship in young minds with good leadership quality for the society.

M4

To enhance the institution in Research and Development by human intellectual capability.

Department Vision Mission

V

To educate and enrich effective and responsible Mechanical Engineers to fulfill the needs of industry and society.

Institution Mission

M1

To lay a strong foundation of technical knowledge by concentrating on fundamental concepts of Mechanical engineering.

M2

To develop creative thinking and innovative methods for solving complex engineering problems.

M3

To develop team spirit, leadership and professional qualities.

M4

To strengthen research abilities in collaboration with industry.



PRINCIPAL'S DESK:



DR. S. SURESH KUMAR
BE, MS, M.TECH., PH.D.
PRINCIPAL

Welcome to another exciting academic year! As your principal, I am thrilled to embark on this journey of learning and growth with each and every one of you. This year, let's embrace the challenges ahead with enthusiasm and resilience. Let's support one another, celebrate our successes, and learn from our setbacks. Together, we can create an environment where every student feels valued, empowered, and inspired to reach for the stars. I encourage you to take advantage of all the resources available to you—from our dedicated teachers to our extensive library to our extracurricular programs. Seize every opportunity to grow academically, socially, and personally.

"AS YOUR PRINCIPAL, I AM HERE TO SUPPORT YOU EVERY STEP OF THE WAY. WHETHER YOU NEED GUIDANCE, ENCOURAGEMENT, OR SIMPLY SOMEONE TO LISTEN, MY DOOR IS ALWAYS OPEN.."

Let's work together to make this academic year one filled with achievement, joy, and unforgettable memories

HOD'S DESK:



DR. A GOPICHAND
B. TECH, M.TECH, PH.D
Professor, HoD-ME

Remember that your education is not only about absorbing information but also about developing critical thinking skills, problem-solving abilities, and a deep understanding of your chosen field. Take advantage of the resources available to you, including our experienced faculty, state-of-the-art facilities, and opportunities for research and practical application. Remember the importance of collaboration and teamwork. Your peers can be invaluable sources of support and inspiration, so don't hesitate to work together, share ideas, and learn from one another.

AS YOUR HEAD OF DEPARTMENT, I AM COMMITTED TO PROVIDING YOU WITH THE SUPPORT AND GUIDANCE YOU NEED TO SUCCEED. I LOOK FORWARD TO WORKING WITH EACH OF YOU AND WITNESSING THE INCREDIBLE PROGRESS WE WILL MAKE TOGETHER.

Wishing you all the best for a successful and rewarding year ahead.



OBJECTIVE

Publishing a research paper can have many advantages for researchers, including: Career advancement, professional recognition, opportunities for collaboration, increased visibility, impact on society, credibility and trust, professional development, inspiration for future research, and contribution to the field.

| S. No | Name of the Faculty | Journals Detail | Paper Title | ISSN / Published year |
|-------|--|---|---|-----------------------|
| 1 | 1. Dr. Allaka Gopichand 2. Mr. P Satya Narayana Raju | Computer Integrated Manufacturing Systems | Strength and corrosion characteristics of sandwich pipes for deep water applications | ISSN 1006-5911, 2022 |
| 2 | 1. Dr. M. Francis Luther King 2. Dr. G. Robert Singh | Materials Today: Proceedings | An experimental study on friction stir processing of aluminium alloy (AA-2024) and boron nitride (BNp) surface composite | ISSN 2214-7853, 2023 |
| 3 | 1. Dr. R. Sanjeev Kumar | Engineering Research Express | Influences of various natural fibers on the mechanical and drilling characteristics of coir-fiber-based hybrid epoxy composites | ISSN 26318695, 2023 |
| 4 | 1. Mr.. John Bunyan 2. Dr. M. Francis Luther King 3. Dr. A. Gopichand 4. Dr. D. Bhanu Prakash | Journal of Fundamental & Comparative Research | Computational Fluid Dynamic Analysis on Rocket Nozzle Using Ansys | ISSN: 2277-7067 |
| 5 | 1. Dr. R. Sanjeev Kumar 2. Dr. A. Gopichand. 3. Mr. P Satya Narayana Raju. 4. Mr. B Mahesh Krishna | Journal of Fundamental & Comparative Research | Design and Printing of Foldable Helmet Using 3D PRINTER | ISSN: 2277-7067 |
| 6 | 1. Mr. B Mahesh Krishna 2. Dr. Allaka Gopichand 3. Dr. R. L. Narayana 4. Mr. Ch Harish Kumar | Journal of Fundamental & Comparative Research | Design of Solar Electric Scooter Using Fusion 360 | ISSN: 2277-7067 |
| 7 | 1. Dr. R. Lalitha Narayana 2. Dr. A Gopichand 3. D. Bhanu Prakash 4. Dr. G. Robert Singh 5. P Satya Narayana Raju 6. Dr. R. Sanjeev Kumar | Journal of Fundamental & Comparative Research | Experimental Investigation of Passive Solar Still with Coated Copper Fins | ISSN: 2277-7067 |

IMPORTANT EVENTS IN THE DEPARTMENT



| S. No | EVENT | DATE | ORGANISED BY / RESOURCE PERSON |
|-------|--|----------------|---|
| 1 | BUSINESS IDEAS Innovation & Design | 16-12-2022 | Dr. Francis Luther King M, Department of Mechanical Engineering, SCET |
| 2 | Expert talk on Process of Innovation Development | 21-12-2022 | Mr. P. Pawan Kumar, a Research Scholar at IIT Roorkee |
| 3 | Outreach on Innovation & development | 31-01-2023 | Dr. Francis Luther King M, Department of Mechanical Engineering, SCET |
| 4 | Guest lecture | 9-3-2023 | Swati Chauhan Asst prof, AE PARUL University |
| 5 | workshop on 'Designing Solar PV | 28-02-2023 | Department of Mechanical Engineering, SCET |
| 6 | Workshop | 09,10-2-2023 | Mr. Kranthi Kumar P from ICT Academy, Chennai |
| 7 | Workshop | 27,28 -02-2023 | Mr Purushotham chary From Greenvion |
| 8 | Industrial visit | 4 & 5 -4-2023 | MSME,Vishakhapatnam |
| 9 | Seminar Presentation by Student's | 15-04-2023 | Department of Mechanical Engineering, SCET |
| 10 | Innovation day | 21-4-2023 | Dr S Suresh Kumar |
| 11 | Student chapter | 25-4-2023 | Mr D Satish kumar Superrintecndent engineer,ONGC |
| 12 | Webinar | 26-04-2023 | Mr Rajat Malhotra Patent attorney |

STUDENT ACHIEVEMENTS



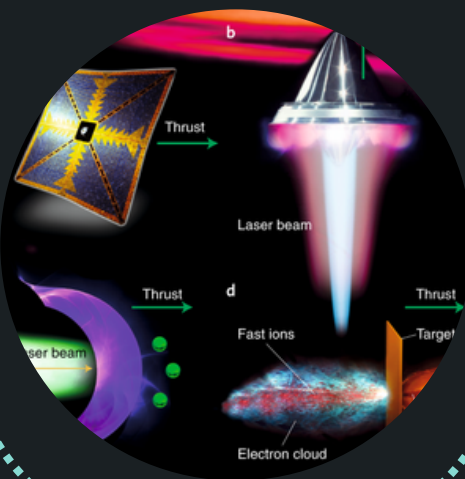
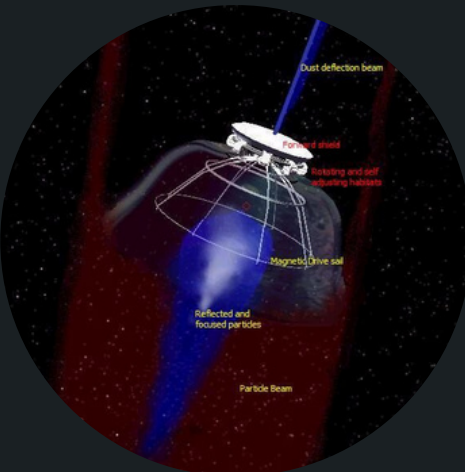
| S. No | Name of the Student | Title | Name of the Institute/Organised by | Award |
|-------|---|--|--|------------------------|
| 1 | PENTAKOTI DHANJAY VENKATA SIVA SAI | Robo Race | SRKR Engineering College (Autonomous), Bhimavaram | 2nd Place |
| 2 | GARAGA KUMAR DATTA, & BASAVA VENKATA SAI SATISH | India design Challenge, Fusion-360 | India design Challenges, Chennai | finalist |
| 3 | SURAVARAPU VAMSIKRISHNA | Tree climbing Robot, (Project Expo) | SRKR Engineering College (Autonomous), Bhimavaram | 1st Place |
| 4 | BADETI SAI KRISHNA SUBRAHMANYAM | Project Expo | Vishnu Institute of Technology, Bhimavaram | 3rd Place |
| 5 | VANKA RAKESH | Robo Race | K L E Institute Of Technology, Karnataka | 2nd Place |
| 6 | Garaga Kumar Datta | Poster Presentation | Parichay, A National Level Cultural - Tech Fest, Kadapa | Poster Presentation |

- PEDAPATI RAVI (20A25B0315) QUALIFIED IN GATE EXAM -2023
- A SRAVANI, G YUGALA WON 1ST PRIZE IN 'BADMINTON DOUBLES' IN VIDYOUTH 2023
- B. PRATHYUSHA, I. NAGA JYOTHI, R. ANASUYA, S. DHANA LAKSHMI, A. SRAVANI, PRESENTED A PAPER TITLED, "MODELLING DESIGN AND ANALYSIS OF E-KART CHASSIS CROSS SECTION USING ANSYS" " IN INTERNATIONAL CONFERENCE ON RECENT ADVANCEMENTS IN ENGINEERING, TECHNOLOGY, AND MANAGEMEN



NEW TRENDS IN TECHNOLOGY

Beamed-Energy Propulsion



✓ WHAT IS BEAMED ENERGY?

IN THE BEAMED ENERGY CONCEPT, THE HEAT EXCHANGER IS POWERED BY AN ELECTROMAGNETIC BEAM PRODUCED ON THE GROUND AND PROPAGATED THROUGH THE ATMOSPHERE – THE POWER SOURCE AND ITS ACCOMPANYING WEIGHT IS LEFT ON THE GROUND.

✓ EXPLAIN BEAM ENERGY PROPULSION

BEAMED-ENERGY PROPULSION IS A METHOD OF PROPULSION THAT USES A REMOTE ENERGY SOURCE, SUCH AS A GROUND- OR SPACE-BASED LASER OR MICROWAVE TRANSMITTER, TO SEND POWER TO A SPACE VEHICLE VIA A BEAM OF ELECTROMAGNETIC RADIATION. IF THE ENERGY TO PROPEL A SPACECRAFT DOES NOT HAVE TO BE CARRIED ON BOARD THE VEHICLE, SIGNIFICANT WEIGHT REDUCTIONS AND PERFORMANCE IMPROVEMENTS CAN BE ACHIEVED. PRESENTLY, BEAMED-ENERGY IS ONE OF THE MOST PROMISING TECHNOLOGIES TO LOWER DRAMATICALLY THE COST OF SPACE TRANSPORTATION. ONE FORM OF BEAMED-ENERGY PROPULSION IS LASER PROPULSION

✓ ADVANTAGES

THE MAJOR THEORETICAL ADVANTAGES OF THIS CONCEPT ARE HIGH ISP, HIGH THRUST TO WEIGHT RATIOS, AND THE ACCOMPANYING PAYLOAD FRACTION AND STRUCTURAL MARGIN INCREASES

✓ REFERENCES

1. Breakthrough (2018-05-29), Progress in beamed energy propulsion, Kevin Parkin, retrieved 2018
2. "Archived copy". Archived from the original on 2011-09-28. Retrieved 2009-08-31.
3. <http://surl.li/rruin>

ACADEMIC TOPPERS

“WHAT WE LEARN WITH PLEASURE, WE NEVER FORGET.”

– ALFRED MERCIER.



FOURTH YEAR TOPPER



NAME: VEGIREDDY NAGA SUBRAHMANYAM

H.T NO: 20A25A0362

SGPA: 9.80

CGPA: 9.15

THIRD YEAR TOPPER



NAME: AINAPUDI SURENDRA

H.T NO: 21A25A0301

SGPA: 9.27

CGPA: 9.16

SECOND YEAR TOPPER



NAME: DUNNA SANATH KUMAR

H.T NO: 22A25A0315

SGPA: 9.32

CGPA: 9.30

Congratulations

Congratulations

is wheelchair accessible.

VOICE OF STUDENTS



IT REFERS TO THE EXPRESSION OF VALUES, OPINIONS, BELIEFS, AND PERSPECTIVES OF INDIVIDUALS AND GROUPS OF STUDENTS IN A SCHOOL AND TO INSTRUCTIONAL APPROACHES AND TECHNIQUES THAT ARE BASED ON STUDENT CHOICES, INTERESTS, PASSIONS, AND AMBITIONS.

Alumni's Voice



ARUN RAJ NELAPUDI
2015-19 BATCH
SOFTWARE ENGINEER

My Experience

I thank department of Mechanical Engineering, SCET for developing and nurturing my skills by helping me to win against stage fear of mine . They had Encouraged technically by allowing me to explore various seminars , workshops and also non technical side like photography, stage arts , cultural in college to get groomed in those personality development sessions . I'm very thankful for motivating me for not giving up on the title Campus ambassador in 2016 and appreciation for all round performance in my final year B. Tech 2019. I always treasure those moments. I'm sure that our Mechanical department will continue to bring that talent and will stood first in appreciation. All the best for the future generation!

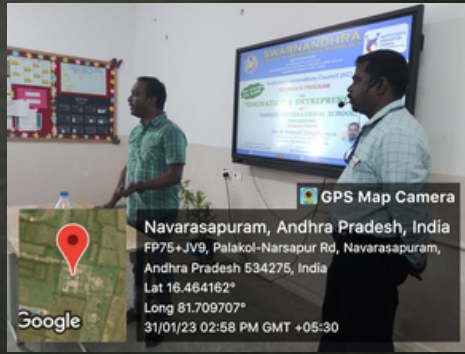
Student's Voice



KANDULA KRISHNARJUNA SWAMY
20A21A0331
THIID YEAR, VI SEM

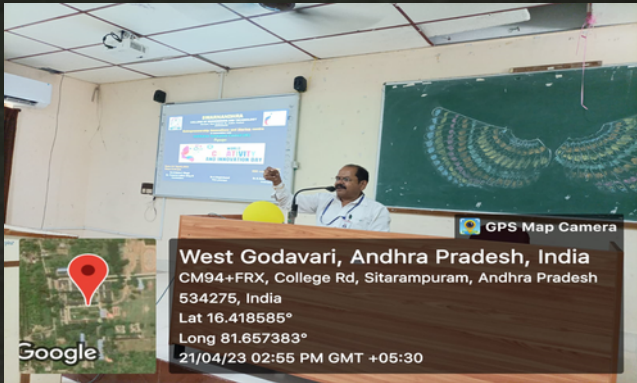
I feel very happy to complete my studies in this college as the department has well laboratories updated with latest technologies. Faculty members also teach us with practical examples which helped me in developing my practical knowledge and skills

GALLERY

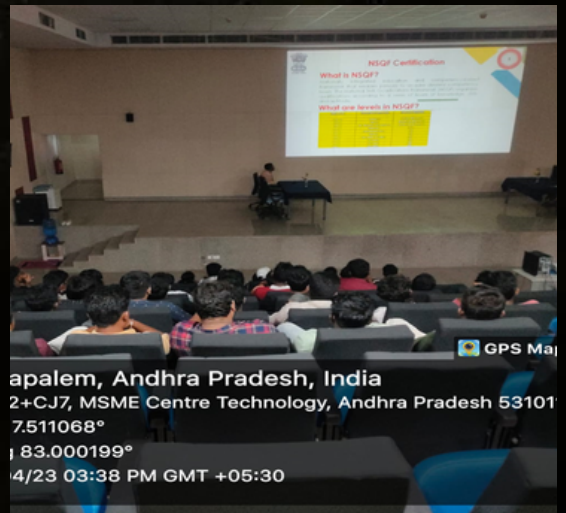
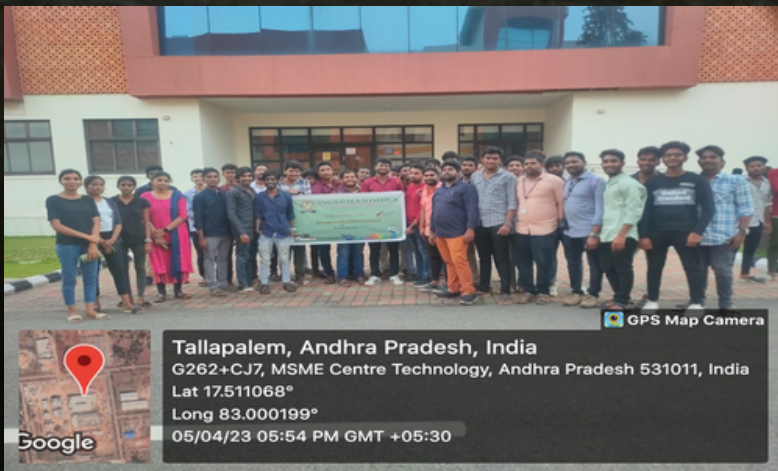


Out Reach Program

Business Ideas



Celebration of World Creativity & Innovation day



Industrial (Field) Visit –MSME Vishakhapatnam

GALLERY



Self Driven Activity



Expert talk on Process of Innovation Development



Student Chapter Certificates