

# YANTRA

## MAGAZINE

VOLUME - IV

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2020-21

DEPARTMENT OF MECHANICAL ENGINEERING



**ADITYA ENGINEERING COLLEGE (A)**

APPROVED BY AICTE NEW DELHI AND AFFILIATED TO JNTU KAKINADA

# ABOUT MECHANICAL DEPARTMENT

Managing moving machines of the world! It is this catchy phrase that has made Mechanical Engineering the thriving branch for being an integral part in shaping our world run on machines. The Mechanical Engineering department at Aditya has earned a place of high repute through its quality teaching rendered by highly qualified and experienced faculty with remarkable number of research publications in reputed journals like ASME, ELSEVIER etc. and rigorous practical training creating an ambience of excitement in all the stages of study. The department lays impetus on hands-on training with the support of simulation packages such as CATIA, ANSYS, IDEAS, PRO-E, UNIGRAPHICS and SOLID WORDS. The academic activities include guest lectures, industrial visits, workshops, seminars, technical festivals VEDA and programs under Mechanical Engineering Students Association (MESA), collegiate club of the Society of Automotive Engineers (SAE) and Auto gear club.

The projects that received appreciation in various events organized at state and national level are Go-Kart, Quad bike, Solar powered wheelchair, LPG bike, Reaping Machine, and many more such highly relevant contraptions. Students are encouraged to do internships in reputed industries like TATA Motors PVT. LTD., Hindustan Shipyard, BHEL PVT. LTD., Bhilai Steel Plant, Bokaro Thermal Power Station, Nalco Mining Division etc

## VISION OF THE DEPARTMENT

To be a preferred knowledge hub in Mechanical Engineering towards critical thinking, quality research and innovation.

### **MISSION OF THE DEPARTMENT**

M1: Provide infrastructure for design and development of modern-day solutions.

M2: Impart leadership, critical thinking and innovation to address the societal needs.

M3: Collaborate with industry, academia, & R&D organizations for excellence in teaching, research and consultancy services.

# FACULTY PUBLICATIONS

Sl. No	Name of the Faculty	Title of the Paper	Name of the Journal	ISBN/ISSN Number	Vol/Month	Impact factor
1	Dr. Santosh Kumar Dash	Combustion analysis of a single cylinder variable compression ratio small size agricultural DI diesel engine run by Nahar biodiesel and its diesel blends	Energy Sources, Part A: Recovery, Utilization and Environmental Effects	15567036	42/July	1.8 / SCIE
2	Dr. A. Saravanan	Performance Evaluation of Square Pyramid Solar Still with Various Vertical Wick Materials - An Experimental	Thermal Science and Engineering Progress	2451-9049	19/October	2.6

# FACULTY CHARACTERS/BOOKS

Sl. No	Name of the Faculty Author	No of Authors	Main Author/ other	Title of the Book/Book Chapter	Name of the Publisher	ISBN Number	URL
1	Dr. P S Ranjit	4	Main Author	Experimental investigations on influence of preheating the jatropha based straight vegetable oil through exhaust gas framework on an IDI CI engine	Nova Science Publishers	978-1-53619-207-0	<a href="https://novapublishers.com/shop/properties-and-uses-of-vegetable-oils/">https://novapublishers.com/shop/properties-and-uses-of-vegetable-oils/</a>



# FACULTY CONFERENCE

Sl. No.	Name of the Faculty as Author	Title of the Paper	Name of the Conference	Date/s	Organized by with location	ISBN/ISSN Number
1	Dr. Ch V S N Reddi	Enhancing noise control in an acoustic cavity using mistuned embedded Resonators and Quarter wavetubes	INTER-NOISE and NOISE-CON Congressand Conference Proceedings	23-26 <sup>th</sup> August 2020	Korean Society for Noise and Vibration Engineering Seoul, Korea	ISSN 0736-2935
2	Dr. Ch V S N Reddi	Construction of SmallTwin Reverberation Chamber for Measurement of Sound Absorption Coefficient and Transmission Loss Coefficient	INTER-NOISE and NOISE-CON Congressand Conference Proceedings	23- 26 <sup>th</sup> August 2020	Korean Society for Noise and Vibration Engineering Seoul, Korea	ISSN 0736-2935
3	Dr. Ch V S N Reddi	Comparative Study onSound Absorption Coefficient of Various Jute Composite Materials	INTER-NOISE and NOISE-CON Congressand Conference Proceedings	23- 26 <sup>th</sup> August2020	Korean Society for Noise and Vibration Engineering Seoul, Korea	ISSN 0736-2935
4	Dr. Ch V S N Reddi	Experimental investigation on performance of composite acousticement panel using recycled SMB waste	INTER-NOISE and NOISE-CON Congressand Conference Proceedings	23- 26 <sup>th</sup> August2020	Korean Society for Noise and Vibration Engineering Seoul, Korea	ISSN 0736-2935
5	Dr. V. V. Kamesh	A Numerical Approach to Find Distinct Mechanisms of a Planar Kinematic Chain Using Linkage Coordinates	1st International Conference on Energy, Materials Sciences & Mechanical Engineering 2020	31stOctober to 1st November 2020	NIT, Delhi	978-981-16-2793-4
6	Dr. V. V. Kamesh	A rigidity approach to find distinct mechanisms of a planar kinematic chain	1st International Conference on Energy, Materials Sciences & Mechanical Engineering 2020	31stOctober to 1st November 2020	NIT, Delhi	2214-7853
7	Dr. P.S. Ranjit	Experimental Investigation on Influence of Injection Pressure on Gaseous Hydrogen Supplemented SVO operated IDI CI Engine	1st International Conference on Energy, Materials Sciences & Mechanical Engineering 2020	31stOctober to 1st November 2020	NIT, Delhi	1757-899X
8	Dr. S. K. Dash	Biodiesel Prepared from Used Palm oil Collected from Hostel Mess is a Promising Supplement for diesel fuel	1st International Conference on Energy, Materials Sciences & Mechanical Engineering 2020	31stOctober to 1st November 2020	NIT, Delhi	978-981-16-2793-4
9	Dr. P.V.Elumalai	Experimental investigation of friction stir welding on aluminium AA6063	International Conference on Advances in Design, Materials and Manufacturing	24-25th July 2020	Madras Institute of Technology, Chennai	2214-7853

# FACULTY SEMINAR AND WORKSHOPS

## ATTENDED

SI. No.	Name of faculty	Name of Event	Name of organizer	Place/ Location	Dates/ Duration
1	Mr. D Raviteja	Two Day Workshop on CATIA	Santhiram Engineering College	Nandyal	29-30 August 2020/2Days
2	Dr. P V. Elumalai	Two Day Workshop on CATIA	Santhiram Engineering College	Nandyal	29-30 August 2020/2Days
3	Ms. A Sirisha Bhadrakali	Two Day Workshop on CATIA	Santhiram Engineering College	Nandyal	29-30 August 2020/2Days
4	Dr P.S Rajith	One Day Seminar On IP Awareness/ Trainingprogram	Intellectual Property Office, India, Govt.of India, Ministry of Commerce and Industry	Nagpur	25 <sup>th</sup> July, 2022
5	Dr P.S Rajith	One Day SeminarOn IP Awareness/ Trainingprogram	Property Office, India, Govt.of India, Ministry of Commerce and Industry	Nagpur	14 <sup>th</sup> July, 2022

## STUDENTS ACHIEVEMENTS

SI. NO.	NAME OF THE STUDENT	EVENTNAME	PRESENTED TOPIC	VENUE	DATE	AWARD/REWARD
1	Chelluri Raviteja	Intellectium 2021	Twin-Turbo or Biturbo	Sinhgad Institute of Technology Lonavala	29-10-21 to 30-10-21	Participation
2	Gadhi Gangadhar	Intellectium 2021	Twin-Turbo or Biturbo	Sinhgad Institute of Technology Lonavala	29-10-21 to 30-10-21	Participation
3	Kommu RajKumar	Impetus and Concepts 2021 (InC) 2021	Blended Winged Aircraft	Pune Institute of Computer Technology, Pune	24-09-21 to 25-09-21	Participation
4	Kondru Naga Sandeep	Impetus and Concepts 2021 (InC) 2021	Blended Winged Aircraft	Pune Institute of Computer Technology, Pune	24-09-21 to 25-09-21	Participation
5	Manepalli Vardhan Kumar	TechExhibit2021	Compressed Air Cars	Sinhgad Institute of Technology, Lonavala	23-07-21 to 24-07-21	Participation
6	Palivela Rajesh	TechExhibit2021	Compressed Air Cars	Sinhgad Institute of Technology, Lonavala	23-07-21 to 24-07-21	Participation

## STUDENTS PENCIL ARTS





B SRIHARI GANESH  
19A91A0360



K R P VARDHAN  
19A91A0384

## ESSAY WRITING

Robotics is a field that encompasses the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing. Robotics has been used in a variety of applications, ranging from industrial automation and manufacturing to scientific research and exploration, military, and medical applications.

One of the main advantages of robotics is their ability to perform tasks that are either too dangerous or too tedious for human beings. For example, robots have been used in hazardous environments such as nuclear power plants, where they are better equipped to handle the conditions than humans. They can also work in factories, performing repetitive tasks such as assembly-line work, which would be monotonous and physically demanding for human workers.

In addition to their industrial applications, robots have also been used in medical and scientific research. For example, robots have been used to perform surgeries with greater precision and accuracy than human surgeons, leading to improved patient outcomes. They have also been used to explore space and the depths of the ocean, gathering data and samples that would be impossible to obtain through human means.

Despite their many benefits, the development and deployment of robots also raises a number of ethical and social issues. One concern is the potential loss of jobs as robots increasingly perform tasks that were previously done by humans. There are also concerns about the safety of robots, particularly in situations where they interact with humans, and about their potential to be used for harmful purposes.

To address these issues, researchers and policymakers have been working to develop ethical and legal frameworks for the development and use of robots. This includes developing guidelines for the responsible use of robots and the development of new technologies to ensure that robots are safe and secure.

In conclusion, robotics is a rapidly growing field that has the potential to transform many industries and have a significant impact on society. While there are challenges associated with the development and deployment of robots, these can be addressed through responsible research, development, and regulation. The future of robotics is full of possibilities, and we can expect to see continued growth and innovation in this field in the years to come.

-By Venkatesh

## A Poem about "Nature's Symphony"

Nature's symphony, a beauty untold,  
A harmony that forever holds.  
With each sunrise and each sunset,  
The world awakens, never at rest.

The trees sway in the gentle breeze,  
A dance so graceful, a sight to see.  
The flowers bloom with colors so bright,  
A sight so serene, in the morning light.

The rolling hills and valleys so green,  
A carpet of life, a verdant scene.  
The rivers run, a journey long,  
A liquid ribbon, meandering along.

The sky so blue, a canvas so wide,  
With clouds so white, floating side by side.  
The stars so bright, a mystery untold,  
A glimpse of heaven, for young and old.

Nature's symphony, a beauty untold,  
A harmony that forever holds.  
Let's cherish it, for all time,  
For it's a treasure, a precious find.

- By Sathish

## "The COVID-19 Crisis: A Global Pandemic"

The COVID-19 pandemic is a highly infectious respiratory illness caused by the novel coronavirus, first identified in Wuhan, China in December 2019. Since then, the virus has spread rapidly across the world, declared a global pandemic by the World Health Organization (WHO) in March 2020.

The symptoms of COVID-19 include fever, cough, and shortness of breath, which can range from mild to severe. In severe cases, the virus can lead to pneumonia, acute respiratory distress syndrome, and death. The virus is primarily spread through respiratory droplets generated when an infected person talks, coughs, or sneezes.

To combat the spread of COVID-19, health authorities across the world have implemented various measures, including lockdowns, quarantines, and the widespread wearing of masks. In addition, many countries have implemented widespread testing and contact tracing, while also ramping up their vaccine efforts.

The COVID-19 pandemic has had a profound impact on the world, leading to significant disruptions to daily life, including school closures, cancelled events, and widespread job losses. The pandemic has also highlighted the importance of preparedness for future global health crises and the need for international cooperation in combating them.

In conclusion, COVID-19 is a highly infectious disease that has caused a global pandemic, leading to significant disruptions to daily life and highlighting the importance of preparedness for future global health crises. It is important for everyone to continue to follow the guidelines set by health authorities, get vaccinated when possible, and take precautions to slow the spread of the virus.



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 V Prakash 17A91A0354	 K Mahesh 17A91A0375	 K Nagesh 17A91A0381	 E Balachand 17A91A0303

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