



VELAMMAL

INSTITUTE OF TECHNOLOGY

Approved by AICTE New Delhi, Affiliated to Anna University Chennai
CSE, ECE, EEE, IT, MECH Accredited by NBA, NAAC

"Velammal Knowledge Park", Chennai - Kolkatta Highway, Ponneri - 601 204



Mechanical Engineering Newsletter

Artificer

Jan-May 2023
Vol. 010, Issue 02



**Mechanical Engineer
to ML Engineer**



Department of Mechanical Engineering

❖ **Vision of the Institution**

- *To be a leader in imparting quality technical education, research & enterprising skills in pursuit of professional excellence*

❖ **Mission of the Institution**

- *To promote quality education & technical skills to meet the industry requirements*
- *To incorporate team work, leadership skills & lifelong learning*
- *To facilitate career development & higher education assistance*
- *To encourage innovative ideas for research & development and entrepreneurship for societal needs*
- *To inculcate ethical responsibility &*

❖ **Vision of the Department**

- *To be a center of excellence, where teaching, learning and research synergize to create professionals in the field of Mechanical Engineering for the society and technological upliftment.*

❖ **Mission of the Department**

- *Prepare effective and responsible engineers for global requirements by providing quality education.*
- *Provide consultancy to the neighborhood and cultivate the spirit of entrepreneurship.*
- *To contribute towards rural upliftment through transfer of appropriate technology and to evolve newer technologies to create better future.*



Department of Mechanical Engineering

❖ Editor's Note.....

Dear Readers,

It brings me great pleasure to publish a new issue of Artificer, the department of mechanical engineering newsletter, on behalf of Velammal Institute of Technology. Being the editor-in-chief of this issue has been an interesting, entertaining, and enlightening experience. This newsletter highlights the academic, co-curricular, and extracurricular accomplishments of our Mechanical Engineering students and faculty.



I heartily congratulate the department's faculty members who collectively collaborated to provide all specifics in outstanding condition. This edition essentially represents the collaborative work and innovative ideas of a large number of skilled writers and designers from our college's Department of Mechanical Engineering. The group discussed a wide range of subjects, from the most recent technological developments to pursuing higher education after graduation. The attractive layouts provided by our gifted designers also completed the newsletter. This topic is also mentioned as an open forum for the diffusion of technical information, knowledge, and ideas.

I hope you enjoy this edition as much as we enjoyed creating it!

Dr. N. Balaji



Department of Mechanical Engineering

❖ Editor's Note.....

Dear Readers,

I am happy to present to you "Artificer," a newsletter from the department of mechanical engineering at Velammal Institute of Technology, on behalf of the institution.



This newsletter provides proof of the successes, involvement, and results of our departmental efforts. This letter also establishes a forum for all aspiring engineers to share ideas.

This newsletter should provide you with a clearer understanding of how our department develops the road map for both technical and non-technical excellence. I would like to express my gratitude to the entire team for their arduous efforts in making this letter successful both in terms of content and design. This newsletter includes a wide range of technical articles and write-ups created by the faculty and students.

Dr. S. Soundararajan



Department of Mechanical Engineering



TEAM MEMBERS



❖ **Editors-in-Chief**

Dr. N. Balaji, Ph.D.,

Principal,

Dr. S. Soundararajan, Ph.D.,

Vice - Principal,

❖ **Associate Editor**

Dr. S.Kaliappan, Ph.D.,

Professor & Head of Department

❖ **Editors**

Dr.M.S.Heaven Dani, M.E., Ph.D., Asso. Professor

Mr.M.D.Raj kamal, M.E., Asst. Professor

Mr.S.Socrates, M.Tech., Asst. Professor

Mr.K.Kalaiselven,M.E., (Ph.D), Asst. Professor

Mr.K.Balamanikandasuthun,M.E.,(Ph.D), Asst. Professor

❖ **Student Coordinators**

Mr. Chennadi Prashanth, IV Year

Mr.D. Vishnu Bharath , IV Year

Mr.S. Sivadharan , III Year

Mr. M.V.Jenish, III Year

Mr.G.Vimal Raj, II Year

Mr.E.Selshiya, II Year



Department of Mechanical Engineering



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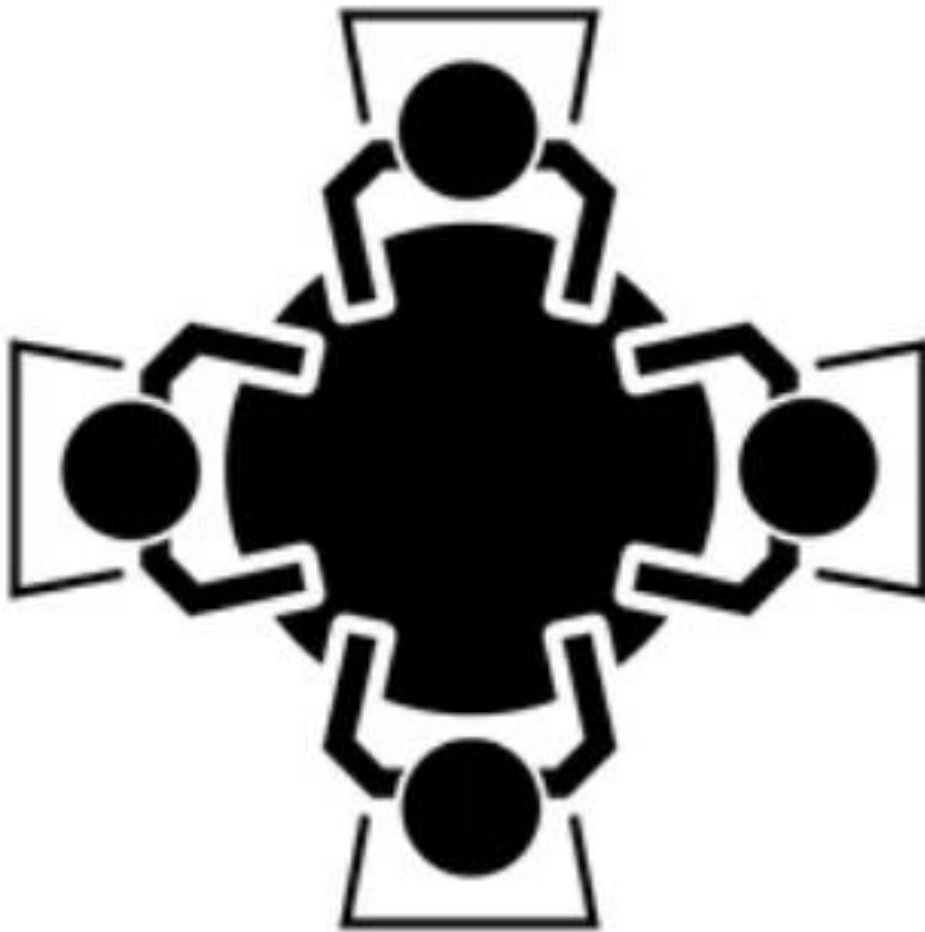
Students' Projects

Trends and Predictions



Department of Mechanical Engineering

Departmental Activities





Department of Mechanical Engineering

Events Organized



Event I - Two days workshop on **”NXplorers Pro - Idea Generation Camp”**

The Department of Mechanical Engineering, Velammal Institute of Technology, in collaboration with Learning Links Foundations, Chennai, held a two-day workshop on "NXplorers Pro - Idea Generation Camp" for II Year and III Year Mechanical Engineering Students at the seminar hall from 20.01.2023 to 21.01.2023 (09.00am to 3.15pm) with the goal of enriching sustainable goals and innovating ideas for product project development. Dr. K. Balaji, Senior Consultant, and Mr. K. Subash Kannan, Lead Consultant, Learning Links Foundations, Chennai, delivered the talk.



Department of Mechanical Engineering *Events Organized*



Event II- An Expert Talk on “Importance of Pneumatic & Hydraulic System”

On 15.02.2023 (10:00am to 12:00pm), the Department of Mechanical Engineering, Velammal Institute of Technology, in collaboration with the Entrepreneurship Development Cell, held an expert talk on "Importance of Pneumatic & Hydraulic System" for II Year and III Year Mechanical Engineering Students at the seminar hall with the goal of briefing the concepts and structure of industrial valves and accessories towards Industrial Automation. Mr. Thyagarajan Thirumalai, Plant Engineering Manager, Flow Control Division, Flowserve India Controls Pvt. Ltd., Chennai, conducted the lecture.



Department of Mechanical Engineering *Events Organized*



Event III - An Expert Talk on “Significant Advancements in Industrial Design and Development Pertaining to Passenger Cars and Utility Vehicles”

The Department of Mechanical Engineering, Velammal Institute of Technology, in collaboration with the Entrepreneurship Development Cell, held an expert talk on "Significant Advancements in Industrial Design and Development Pertaining to Passenger Cars and Utility Vehicles" on 22.02.2023 (10:00am to 12:00pm) at the seminar hall for II and III Year Mechanical Engineering Students with the goal of briefing the concepts about the design and development of the latest automobiles. Mr. N. Silambarasan, Assistant Manager, Tool Design (PC and UV Wheels), Wheels India Limited, Chennai, gave the lecture.



Department of Mechanical Engineering *Industrial Visit*



**TVS Training and
services Private Limited**

On March 15, 2023, a group of 40 II and III-year Year Mechanical Engineering students and two staff coordinators paid a visit to TVS Training and Services Pvt Ltd. Ms. Dhanalakshmi gave a presentation regarding the organization's history, developments, and training divisions and branches. Under the supervision of Mr. Krishnakumar P, Manager - Business & Development, the respective Expert Trainers from various training divisions (Mechanical - Manufacturing, Industrial Electrical and Automation, Automobile, Embedded Systems, and so on) were explained their part of training with the best facility available within the firm and also given valuable inputs towards future developments in various competitive companies. During this visit, the students interacted with professionals from several divisions and had their questions answered.



Department of Mechanical Engineering

Industry – Institute Interaction



Dr. N. Balaji, Principal and Dr. S. Kaliappan, Prof & Head/Mechanical has visited TVS Training and Services Pvt Ltd. There the training in-charge clearly explains the procedure of getting trained over in that institute. Also the company employees showcased and explained the concepts and working principles of their major equipment available in that site



Department of Mechanical Engineering



Mr. AFRUDEEN M
MIND TREE - 4.00 LPA

Mr. ASHOKAN K
CTS GENC - 4.0 LPA



Mr. MUNTHASIR AHAMED M.A
CTS - 4.0 LPA
TCS - 3.9 LPA



Mr. RAKSHAN K

ZF WABCO - 2.5 LPA

Wino Mechanics Pvt Ltd -
3.5 LPA



❖ Placement & Training



Department of Mechanical Engineering



Mr. VISHNU BHARATH D
GEA BGR ENERGY-3.60LPA

Mr. DEEPAK E
RDC Concrete – 3LPA
Rinac India- 3LPA



Mr. PRAVEENRAJ
RDC Concrete – 3LPA
ZF WABCO- 2.5LPA



Mr. RAMACHANDRAN C
ZF WABCO- 2.5LPA
GEA BGR ENERGY-
3.60LPA



❖ Placement & Training



Department of Mechanical Engineering

Placement & Training

From the second year onwards, the Department of Training and Placement at Velammal Institute of Technology supported educational opportunities for Mechanical Engineering students. This cell is constantly striving to assist students in following their career aspirations by developing employment-seeking skills and, ultimately, obtaining desired employment. This is accomplished by establishing a strong cooperation among students, alumni, faculty members, and industries. They usually hold a training program with a set curriculum during the first week of each semester.





Department of Mechanical Engineering

Placement & Training

The T&P cell, in collaboration with Six Phase Training Institute, held a 10-day training programme on "C - Programming" for III Year Mechanical Engineering students this semester. Students enthusiastically participated in the instruction and improved their programming abilities during this session. As a result of this training, our students will be able to solve 200+ programmes in the Skillrack online platform in a relatively short amount of time.



The T&P cell held a ten-day training programme on "Aptitude and Soft Skills" for students in their second year of mechanical engineering. Mr. Eldo Ranjith - Aptitude Trainer presided over the entire session. After completing this training programme, students will be able to participate in various verbal reasoning and logical interpretations with ease. They also work on their personality and soft skills



Department of Mechanical Engineering

Department Infrastructure

Project/R&D Lab



KOM Lab





Department of Mechanical Engineering

Department Infrastructure

DOM Lab



SOM Lab





Department of Mechanical Engineering

Department Infrastructure

MT II Lab



FMM Lab





Department of Mechanical Engineering

Department Infrastructure

Thermal Lab



MTI Lab





Department of Mechanical Engineering

Department Infrastructure

EPL Lab



MM Lab

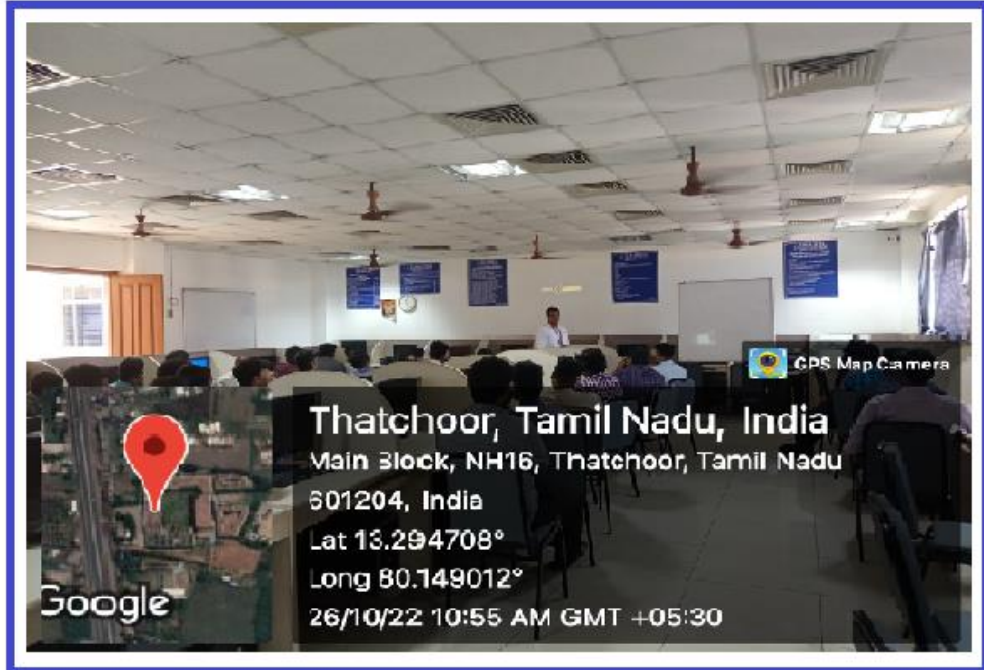




Department of Mechanical Engineering

Department Infrastructure

CAD Lab



Mechatronics Lab





Department of Mechanical Engineering

International Conference



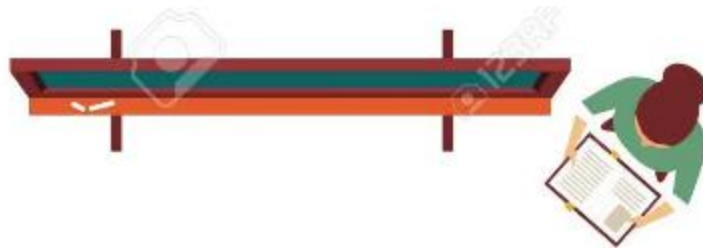
Fourth – ICIA23

On the 5th of April 2023, the Departments of Mechanical Engineering and Mechatronics Engineering will co-host the Fourth International Conference on Intelligence in Industrial Automation on our college campus. We received over 100 articles in diverse domains, which we reviewed and selected 25 articles for presentation. On that day, all participants presented their papers in front of expert members. Dr. N. Balaji, Principal/VIT, opened the conference, while Mr. Gilbert Fernando and Mr. Subash Thanappan delivered the presidential addresses.



Department of Mechanical Engineering

Faculties Corner





Department of Mechanical Engineering

Faculties Corner



❖ *Appointment as external examiner for the VIII sem viva voce examination for B.Tech Automobile Engineering at BSA Crescent Institute of Science & Technology.*

Dr. S. Kaja Mohideen
Controller of Examinations

Letter No. 562 / COE / 2023

Date : 28.04.2023

To
The Head of the Department
Department of Automobile Engineering

Sub : Appointment of External Examiner for Project Viva-Voce Examinations
B.Tech – Automobile Engineering – May 2023
B S Abdur Rahman Crescent Institute of Science and Technology - reg

This is to inform that the following expert is appointed as External Examiner to conduct the Project Viva - Voce Examinations B.Tech – Automobile Engineering to be held in May 2023.

Sr. No.	Name & Designation	Date
1.	Dr. S. Kaliappan, Professor, Department of Mechanical Engineering, Velammal Institute of Technology, Chennai – 601 204.	18.05.2023

The Head of the Department is requested to inform the external examiners about the schedule (date, session and number of batches) of the examinations and send the copies of project thesis to be evaluated in advance to the examiner. The examiner may also be requested to return the evaluated thesis on the day of examination.

S. K. Mohideen
Controller of Examinations

Seethipathi Estate, GST Road, Vandalur, Chennai – 600 048, TN, India. Web : www.crescent.education
Tel : +91 (44) 2275 1347, 1348, 1350

❖ *Faculties Participation*



Department of Mechanical Engineering

Research Contribution

<i>Name of the Staff</i>	<i>Title of the Project</i>	<i>Principal Investigator and Co investigators</i>	<i>Funding Agency</i>	<i>Amount (in lakhs) INR</i>
<i>Dr.M.S.Heaven Dani</i>	<i>EXPERIMENTAL BEHAVIOUR OF HYBRID COMPOSITES IN CONTEMPORARY HOMES IN HILL AREAS</i>	<i>Dr.M.S.Heaven Dani , Mr.G.M.Pra deep & Mr.N.Abu Basim</i>	<i>SERB - CRG</i>	<i>Rs.26,00,000</i>
<i>Dr.S.Kaliappan</i>	<i>DEVELOPMENT OF BAMBOO FIBER WITH GRAPE STALK CELLULOSE FIBER COMPOSITE MATERIAL USING SMART MANUFACTURING PROCESS FOR HEALTHCARE APPLICATIONS.</i>	<i>Dr.S.Kaliappan & Mr.M.D.Raj kamal</i>	<i>DST- SERB(CRG)</i>	<i>Rs:29,41,000</i>

❖ Project Applied Details



Department of Mechanical Engineering

Research Contribution

<i>Research Articles Published Details</i>	<i>Total Count</i>
Research Articles Published in Conference Proceedings	10
Research Articles Published in SCOPUS/Wos/SCIE/ANNEXURE 1 JOURNAL	24

❖ **Research Articles Published Details**

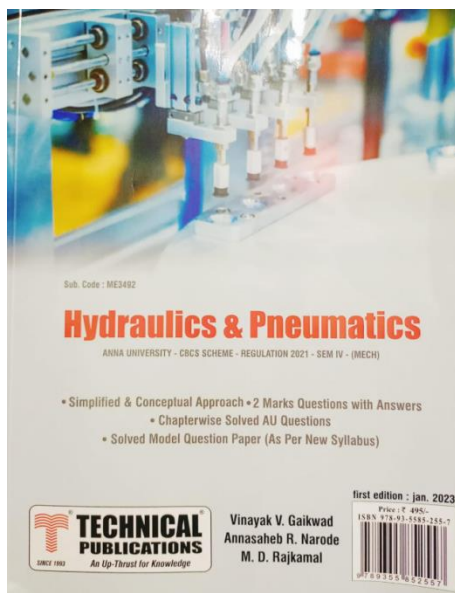


Department of Mechanical Engineering

Research Contribution

Staff Name	Title of the Book	Publisher
M.D.Raj kamal	Hydraulics and Pneumatics	Technical Publications

❖ Details of Books/Monograph Published



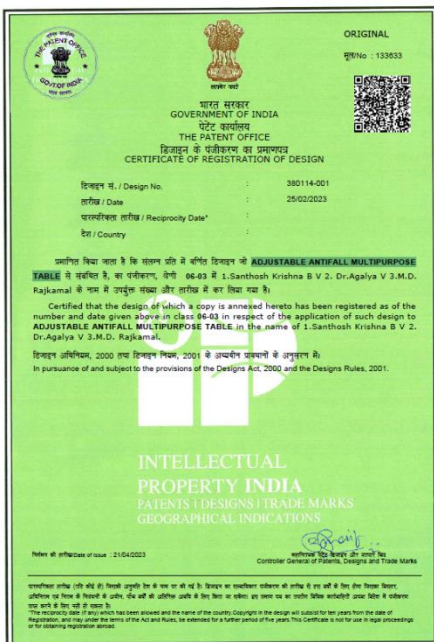


Department of Mechanical Engineering

Research Contribution

Staff Name	Title of the Patent	Published /Granted
Dr.S.Kaliappan M.D.Raj kamal S.Socrates	Development of Bamboo fibre with graph stalk cellulose fibre composite materials using smart manufacturing process for healthcare application	Published
M.D.Raj kamal	Adjustable Antifall Multipurpose Table	Granted

❖ Details of Patent



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FORM 1
THE PATENTS ACT, 1970
(39 of 1970)
&
THE PATENTS RULES, 2003
APPLICATION FOR GRANT OF PATENT
[See sections 7,54 & 135 and rule 28(1)]

(FOR OFFICE USE ONLY)
Application No.: _____
Filing Date: _____
Amount of Fee Paid: _____
CBR No.: _____
Signature: _____

1. APPLICANT(S):

Sl.No.	Name	Nationality	Address	Country	State	District	City
1	VELAMMAL INSTITUTE OF TECHNOLOGY	India	Chennai - Kerkata HighWoy, Panchetti, Thiruvallur District., Pincode - 601 204	India	Tamil Nadu	Tiruvallur	Tiruvallur

2. INVENTOR(S):

Sl.No.	Name	Nationality	Address	Country	State	District	City
1	Dr. S. Kaliappan	India	Professor and Head Dept of Mechanical Engineering Velammal Institute of Technology, Velammal Knowledge Park,Panchetti-601204, Thiruvallur,Tamilnada	India	Tamil Nadu	Tiruvallur	Tiruvallur
2	Mr.M.D.Raj kamal	India	Assistant Professor Dept of Mechanical Engineering Velammal Institute of Technology, Velammal Knowledge Park,Panchetti-601204, Thiruvallur,Tamilnada	India	Tamil Nadu	Tiruvallur	Tiruvallur
3	Mr.S. Socrates	India	Assistant Professor Dept of Mechanical Engineering Velammal Institute of Technology, Velammal Knowledge Park,Panchetti-601204, Thiruvallur, Tamilnada	India	Tamil Nadu	Tiruvallur	Tiruvallur

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3. TITLE OF THE INVENTION: DEVELOPMENT OF BAMBOO FIBER WITH GRAPE STALK CELLULOSE FIBER COMPOSITE MATERIAL USING SMART MANUFACTURING PROCESS FOR HEALTH CARE APPLICATIONS



Department of Mechanical Engineering *Faculties Corner*

Faculty Name	Polytechnic College	Visit Date
Dr. S.Kaliappan	1. P.T.Lee Chengalvayan Polytechnic. 2. Thai moogambigai polytechnic. 3. Thiru Sevan Hills Polytechnic .	20.4.2023
Dr. S.Kaliappan	1. Govt. Polytechnic College. 2. TVS Polytechnic College. 3. Murugappa Polytechnic College.	28.4.2023



Outreach Activities



The faculty members from the department of Mechatronics Engineering, Velammal Institute of Technology has visited a list of polytechnic colleges and conducted the awareness program on “Career Opportunities for Engineering students” among students. In this session, the students actively participated in the interactive session and clarify their doubts then and there.



Department of Mechanical Engineering *Students Corner*





Department of Mechanical Engineering *Students Corner*

VELAMMAL INSTITUTE OF TECHNOLOGY
Approved by AICTE, New Delhi, affiliated to Anna University, Chennai.
National Knowledge Park, Chennai - Kolkata Highway, EC206.


ADMISSIONS OPEN 2023-24

Department of Mechanical Engineering

TNEA COUNSELLING CODE 1237

NCAT ACHIEVER
Congratulations

On behalf of Mechanical Engineering Dept, the staffs and students congratulate Mr.Sudarshan A R (11332114018) of II Yr Mech. on his performance in National Creativity Aptitude Test (NCAT 2023) and has secured All India Rank 70 in Category 2



We would like to congratulate our NCAT Dept. Coordinator Dr.M.S.Heaven Dani for his consistent mentoring, his guidance and shared experiences which is invaluable.

For Admissions, contact:
"Velammal Knowledge Park", Chennai - Kolkata Highway,
Panchettili, Thiruvallur District, Tamil Nadu.
Email: admission@velammalitech.edu.in

Register Online @
www.velammalitech.edu.in

044-22446300 +9190876 44626 +91 90875 56789

Mr.A.R.Sudarshan
from II Year Mechanical Engineering has cleared National Creativity Aptitude Test 2023 and he has secured All India rank 70 in category 2

National Creativity Aptitude Test
ALL INDIA RANK CERTIFICATE

This is to certify that **SUDARSHAN A R** from **Velammal Institute of Technology, Thiruvallur District, Tamilnadu** has shown exemplary performance in **National Creativity Aptitude Test 2023** and has secured **All India Rank 70** in category **2**.




Lalit Jonwal
NCAT, Head

Roll No: 11532 Ins Code: 120
International Forum for Excellence in Higher Education


Sandeep Goel
NCAT, Co-ordinator



Department of Mechanical Engineering Students Corner

<i>Name of the student</i>	<i>YEAR/SEM</i>	<i>Name of the company</i>	<i>Duration</i>
<i>CHENNADI PRASHANTH</i>	<i>IV/VIII</i>	<i>PVR ENGINEERING WORKS VELLORE</i>	<i>10-02-2023 to 20-02-2023</i>
<i>RAKSHAN K</i>	<i>IV/VIII</i>	<i>R&B ENGINEERING WORKS - TRICHY</i>	<i>15-02-2023 to 30-03-2023</i>
<i>HARANBABU A</i>	<i>IV/VIII</i>	<i>R&B ENGINEERING WORKS - TRICHY</i>	<i>15-02-2023 to 30-03-2023</i>
<i>PARTHIBAN</i>	<i>IV/VIII</i>	<i>BOSCH BANGALORE</i>	<i>16-02-2023 to 20-03-2023</i>
<i>AFRUDEEN</i>	<i>IV/VIII</i>	<i>LTIMINDTREE CHENNAI</i>	<i>22-02-2023 to 19-04-2023</i>
<i>UDAYA KUMAR</i>	<i>IV/VIII</i>	<i>USAM TECHNOLOGY SOLUTIONS CHENNAI</i>	<i>07-02-2023 to 01-04-2023</i>

❖ *Internship Details*



Department of Mechanical Engineering Students Corner

<i>Name of the student</i>	<i>YEAR/SEM</i>	<i>Name of the company</i>	<i>Duration</i>
<i>S.PRAVEEN</i>	<i>III/VI</i>	<i>JRTS calibration services</i>	<i>08-03-2023 to 17-03-2023</i>
<i>GOKULA A</i>	<i>III/VI</i>	<i>Rane Madras Ltd - Puducheery</i>	<i>17-01-2023 to 17-03-2023</i>
<i>G. VIMAL RAJ</i>	<i>II/IV</i>	<i>SRF Limited</i>	<i>27-03-2023 to 13-04-2023</i>
<i>SIVADHARAN S</i>	<i>III/VI</i>	<i>Rane Madras Ltd, Pondicherry</i>	<i>17.01.2023 to 17.03.2023</i>
<i>MAGESH M</i>	<i>III/VI</i>	<i>Rane Madras Ltd, Pondicherry</i>	<i>17.01.2023 to 17.03.2023</i>
<i>LOGESHWAR B M</i>	<i>III/VI</i>	<i>Rane Madras Ltd, Pondicherry</i>	<i>17.01.2023 to 17.03.2023</i>
<i>BALAGURUBARAN.V</i>	<i>II/IV</i>	<i>SRF Limited</i>	<i>27-03-2023 to 13-04-2023</i>

❖ *Internship Details*



Department of Mechanical Engineering

Students Corner



Mr.G.B.Rethish

from II Year Mechanical Engineering has participated at the district level of speak India – Tamilnadu Edition, A state level inter collegiate completion






Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
SELSHIYA E	8.68	
JOHAN M	8.57	
SANTHOSH KUMAR P	8.56	

❖ *II Year Mechanical Engineering*



Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
KAVI PREAM A	9.09	
PRAVEEN S	8.92	
DINESH N	8.90	

❖ *III Year Mechanical Engineering*



Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
JENISH M V	8.87	
SIVADHARAN S	8.78	
GIRISH PETER M	8.67	

❖ *III Year Mechanical Engineering*



Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
GOKUL A	8.67	
MANIMARAN D	8.51	

❖ *III Year Mechanical Engineering*



Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
K.S.ASHOKAN	8.66	
J.FRANKALIN	8.66	

❖ *IV Year Mechanical Engineering*



Department of Mechanical Engineering

Students Corner

**Anna University End Semester
Examinations November/December 2022**

Class Toppers

<i>NAME</i>	<i>CGPA UPTO II I SEM</i>	<i>PHOTO</i>
VISHNU BHARATH D	8.593	
DEEPAK E	8.5614	

❖ *IV Year Mechanical Engineering*



Department of Mechanical Engineering

RELIABLE BLOOD WARMER FOR BLOOD TRANSFUSION SYSTEM

TEAM MEMBERS

SIVADHARAN S, GOKULA. , MAGESH M.

Supervisor

Mr. Balamanikandansudhan



NICHROME COIL



THERMOSTAT



CERAMIC STRUCTURE



Blood is kept refrigerated for preservation of the cells. It is essential to warm it to an blood can initiate a state of hypothermia within the patient. There is breakdown of the blood cells. If the transfusion is done too quickly without warming, the colder appropriate temperature not only to prevent hypothermia but also to prevent hemolysis, or s a delicate balance of temperature over time that must be maintained. To achieve this task we are going to fabricate a device which maintain the temperature level by using various components using temperature sensors,

❖ Students Projects



Department of Mechanical Engineering

DESIGN AND FABRICATION OF HANDICAPPED DOG WHEELCHAIR

TEAM MEMBERS

PREAM A ,MANI MARAND ,VENKATARAMAN MA

Supervisor

Dr. M.S. HEAVEN DANI , M.E, Ph.D.,



❖ Students Projects

The purpose of this study is to design and develop a dog wheelchair that provides enhanced mobility and rehabilitation for dogs with mobility impairments. The wheelchair design incorporates lightweight and durable materials, and a customized harness system to accommodate dogs of different sizes and breeds. It also features ergonomic support to distribute weight evenly, reducing strain on the dog's limbs and joints. The wheelchair frames were designed to be constructed from PVC piping. The product making steps are characterized .The wheelchair cost between Rs.1200 – Rs.1600, and took 4-5 hours to construct.



Department of Mechanical Engineering

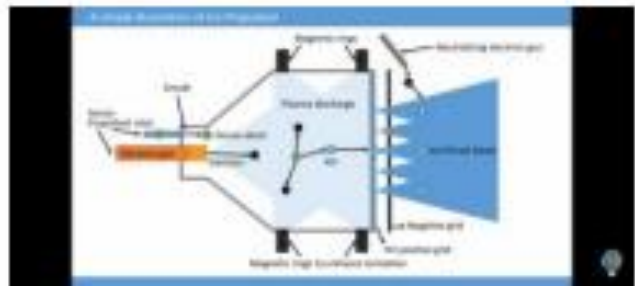
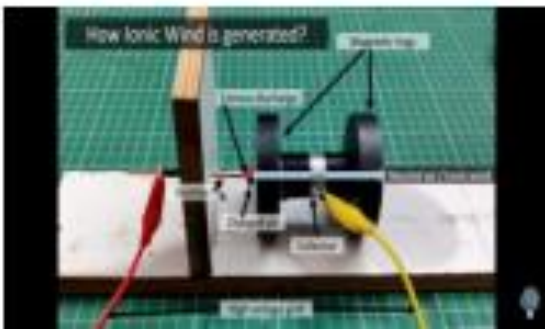
DIY IONIC PROPULSION/THRUSTERS

TEAM MEMBERS

**MUKESH KUMAR T.M, VENU GOPAL .L ADITHYA .M. VEERANDARA
KRISHNA P.M**

Supervisor

Dr.S.KALIAPPAN , HOD & Prof



As in all reaction propulsion systems, the thrust depends ultimately on the transfer of momentum from an exhaust stream to the vehicle. The exhaust velocity is straight forwardly given by the potential difference between the grids. Ions dropping through this potential difference each gain a fixed amount of energy, and this converts directly into a velocity

❖ Students Projects



Department of Mechanical Engineering

TESTING AND ANALYSIS OF HYBRID COMPOSITE USING BASALT AND BANANA FIBRE

TEAM MEMBERS

M. MONESH DEEPAKC. RAMACHANDRAN

Supervisor

Mr. M.D.RAJ KAMAL



IMPACT TEST RESULT



TENSILE TEST RESULT



WEAR RESISTANCE TEST RESULT



❖ Students Projects



Department of Mechanical Engineering

Trends and Predictions

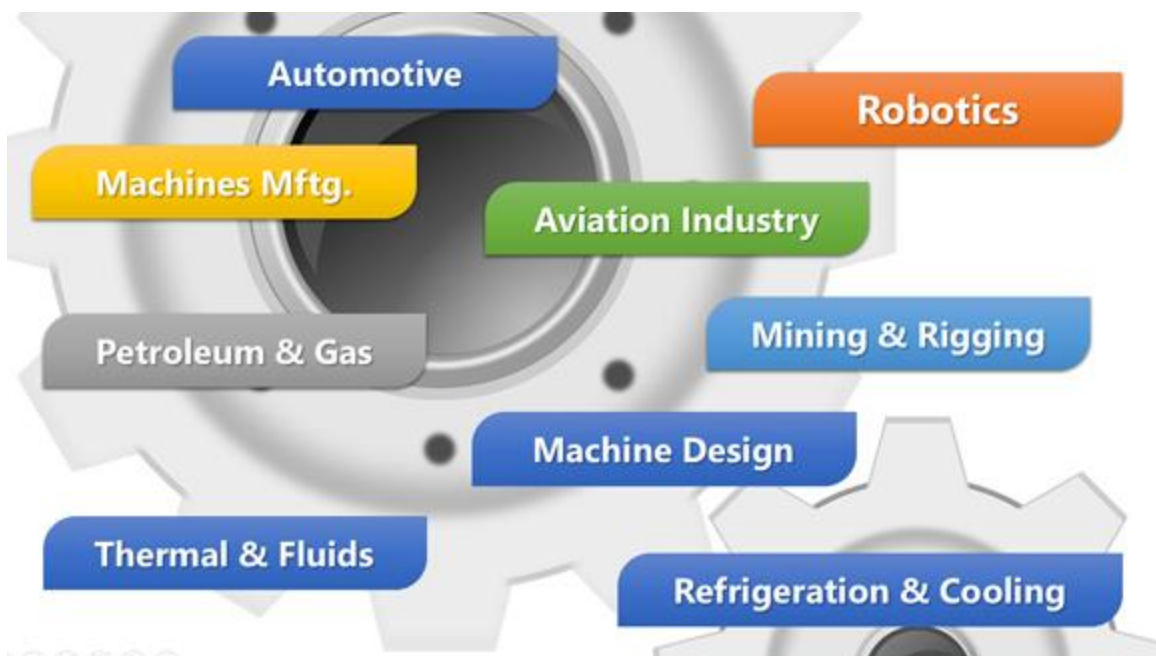




Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Mechanical engineers may now provide more effective and efficient solutions to challenging issues thanks to technology. Mechanical engineers are poised to have a significant impact in the future thanks to technological advancements, novel materials, and creative concepts. The following technologies are transforming the market.



❖ *Trends and Predictions*



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Automation

By performing routine operations automatically, automation can free up an engineer's head so they can focus on more creative and mentally taxing jobs.



*Automation has the potential to, Reduce costs Improve efficiency
Increase safety*

It is being used to automate tasks like,

- *Welding*
- *Machining*
- *Assembling*

*Automated systems can now perform some complex tasks,
including*

- *Basic Designing*
- *Simple fabrication of components*

*Automated systems can be programmed to use less energy and
resources than manual labour. For example,*

- *Automated assembly machines do the job of picking, packing
and disposing of without any involvement of human labour.*

❖ Trends and Predictions



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

3D Printing

Making three-dimensional items out of digital files is known as 3D printing. This quickly developing technology has completely changed how mechanical engineers create parts and components.

- *3D printing also allows for the creation of custom parts and components quickly and easily*
- *It can reduce the cost and time associated with traditional manufacturing processes*
- *As technology advances, the cost of 3D printing will decrease, and the quality of the parts and components produced will increase.*
- *In the medical industry, 3D printing technology can be involved in creating the following,*

Custom prosthetics

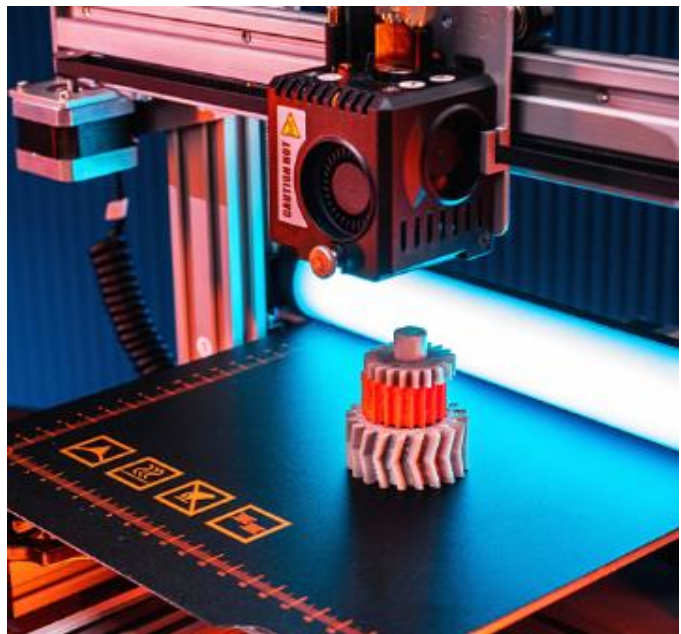
- ✓ *Bionic Hands*
- ✓ *Prosthetic upper limb*

Implants

Medical devices

- *In the automotive industry, 3D printing technology can produce parts and components for,*

- ✓ *Cars*
- ✓ *Trucks*
- ✓ *Electric vehicles*



❖ *Trends and Predictions*



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Robotics

In mechanical engineering, robotics is becoming more and more significant. They have a significant impact on the precision and effectiveness of manufacturing equipment and are evolving to become more complicated and capable of executing difficult jobs.

- *Robotics can be used to automate tasks, as well as to create new materials and components.*
- *Robotics can also be used to improve existing processes and components.*
- *Robotics can be used to*

- ✓ *Explore hazardous environments*
- ✓ *perform surgery*
- ✓ *provide companionship*

- *They can learn and adapt to their environment, making them more efficient and effective.*
- *Robotic surgery is becoming increasingly common, and robots assist doctors in complex operations.*

- ✓ *For example, The Da Vinci Surgical System provides sophisticated equipment for performing invasive robotic surgery.*



❖ **Trends and Predictions**



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Artificial Intelligence (AI)

AI is the ability of machines to learn, reason, and act like humans. AI can be used to automate processes, as well as to create new materials and components.

- *AI can be used to improve existing processes and components.*
- *AI is already used in mechanical engineering to automate,*
 - ✓ *Mechanical processes*
 - ✓ *Analyse data*
 - ✓ *Decisions making*



- *AI can be used in mechanical processes to,*
 - ✓ *Optimise designs*
 - ✓ *Reduce costs*
 - ✓ *Improve the efficiency*

Trends and Predictions



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Nanotechnology

Nanotechnology is the atomic or molecule level modification of matter. It entails employing incredibly small particles to produce materials and components with distinctive features, such as nanotubes, nanowires, and nanoparticles.



- *Nanotechnology has the potential to create materials and components with unprecedented,*
 - ✓ **Strength**
 - ✓ **Flexibility**
 - ✓ **Durability**

- *Nanotechnology is already being used in a variety of industries, including*
 - ✓ **Aerospace**
 - ✓ **Automotive**
 - ✓ **Medical**

❖ **Trends and Predictions**

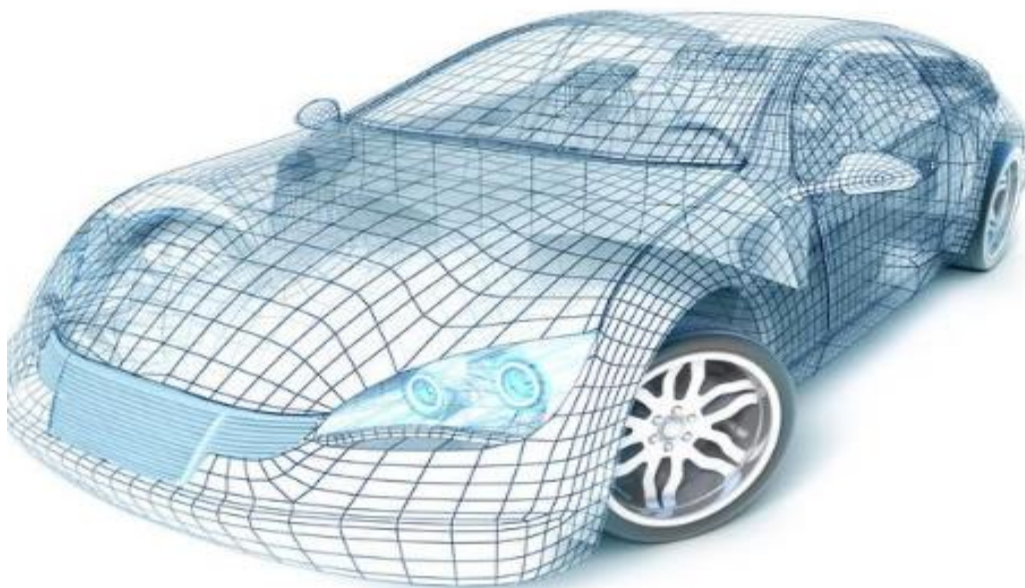


Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Computer-Aided Engineering

Mechanical engineers can more easily design and assess complex systems thanks to CAE software. Designing, analysing, and manufacturing mechanical parts and systems is aided by computer software.



- *CAE tools reduce the engineering process's time and cost while improving the design's quality.*
- *This is because they can provide engineers with more accurate and detailed information about their designs.*
- *In the future, CAE tools will become even more powerful and sophisticated.*
- *This will allow them to make more informed decisions and improve the quality of their designs.*

❖ **Trends and Predictions**



Department of Mechanical Engineering

The Impact of Technology on Mechanical Engineering

Internet of Things (IoT)

IoT has made it possible for mechanical engineers to design connected goods that can communicate with one another to form an ecosystem-like structure.



- *By connecting physical objects to the internet, engineers can monitor and control their systems remotely, allowing them to make more informed decisions and reduce downtime.*
- *IoT in mechanical engineering is already being implemented in various industries, such as*
 - ✓ **Automotive**
 - ✓ **Aerospace**
 - ✓ **Energy**

Trends and Predictions



Department of Mechanical Engineering

RANK HOLDERS

2012-16 Batch



VIGNESH S
113312114109
CGPA: 8.94
33rd Rank



S.JAYA KRISHNAN
113312114030
CGPA : 8.82
45th Rank

2013-17 Batch



**SOORYA
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113313114131
CGPA: 9.10
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31th Rank



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48th Rank



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2014-18 Batch

2016-20 Batch



ASHISH KUMAR R
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Mr. Dravida Chozhan.B
2017-21 Alumni
AU 17th Rank
Assistant System Engineer
TCS



Department of Mechanical Engineering

❖ **Batch 2019-2023**



Placement Highlights For 2019-23 Batch





Department of Mechanical Engineering



It is indeed a privilege in addressing you. Yet another year has passed and we have crossed some more milestones. At every step we had the support and motivation provided by the confident parents.

Mr. M. V. MUTHURAMALINGAM



*thank
you*