EASWARI ENGINEERING COLLEGE
An AUTONOMOUS Institution
Affiliated to ANNA UNIVERSITY
RAMAPURAM CHENNAI

DEPARTMENT OF MECHANICAL ENGINEERING

TECHNICAL MAGAZINE YEAR: 2022-2023

VISION

To be an acknowledged leader in imparting Mechanical Engineering education, research and be a recognized resource center for industry and society

MISSION

M1:To make the students understand the basic and advanced Engineering concepts in the core fields of Mechanical Engineering through Under-Graduate and Post-Graduate Courses.

M2:To prepare the students and expose them to the basic and applied research, thus fostering creativity through recognized research centers.

M3:To make the students undergo training in the Industries, identify the current problems and solve them with multidisciplinary and professional approach.

M4:To prepare the students to integrate Engineering with business that encourages technological commercialization by inviting eminent entrepreneurs for seminars and workshops.

M5:To make the students do application oriented projects which identify the current problems, solving them and thus contribute to the societal needs.

M6:To inculcate the value of ethics, lifelong learning and widening the knowledge frontiers through long term interaction with other academia and industry.

PROGRAM OUTCOMES (PO)

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: 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.

PO3: 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.

PO4: 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.

PO5: 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.

PO6: The Engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent

PO7: 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.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: 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.

PO11: 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.

PO12: 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

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO1: Our graduates will have fundamental technical knowledge and develop core competency in diversified areas of Mechanical Engineering along with Mathematics, Science and other allied engineering subjects in a view to expand the knowledge horizon and inculcate lifelong learning.

PEO2: A fraction of our graduates will pursue advanced studies, research and develop products in the field of Mechanical engineering by developing partnerships with industrial and research agencies thereby serving the needs of the industry, government, society and scientific community.

PEO3: Our graduates will be capable of building their own career upon a solid foundation of knowledge and with a strong sense of responsibility serve their profession and society ethically.

PEO4: Our graduates will be prolific professionals with effective communication, leadership, teaming, problem solving, decision making skills by understanding contemporary issues and improve their overall personality for career development

. PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Students will be competent in design and analysis of thermal and fluid systems.

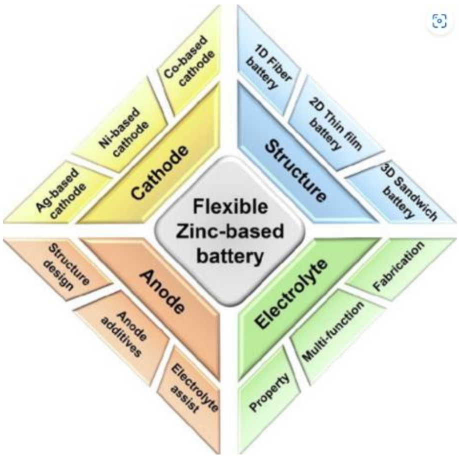
PSO2: Students will possess the skill to apply design concepts for mechanical structures and systems.

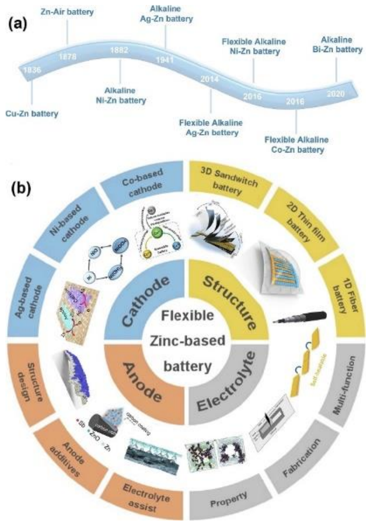
PSO3: Students will be able to design and develop industrial products using modern machines in the field of manufacturing.

PSO4: Students will be able to use software to solve structural, thermal, fluid and manufacturing problems.

JOURNAL ARTICLE

RECENT ADVANCES IN FLEXIBLE ALKALINE ZINC-BASED BATTERIES: MATERIALS, STRUCTURES, AND PERSPECTIVES

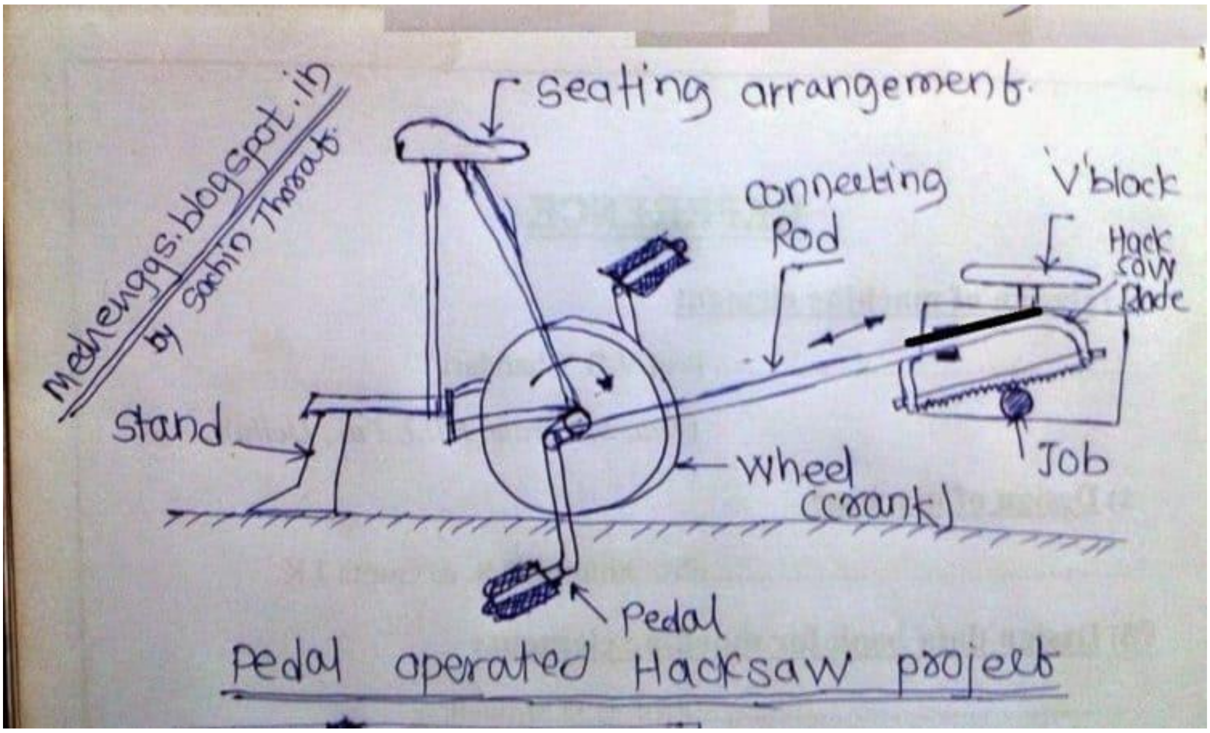




The development of wearable electronic systems has generated increasing demand for flexible power sources. Alkaline zinc (Zn)-based batteries, as one of the most mature energy storage technologies, have been considered as a promising power source owing to their exceptional safety, low costs, and outstanding electrochemical performance. However, the conventional alkaline Zn-based battery systems face many challenges associated with electrodes and electrolytes, causing low capacity, poor cycle life, and inferior mechanical performance. Recent advances in materials and structure design have enabled the revisitation of the alkaline Zn-based battery technology for applications in flexible electronics. Herein, we summarize the up-to-date works in flexible alkaline Zn-based batteries and analyze the strategies employed to improve battery performance. Firstly, we introduce the three most reported cathode materials (including Ag-based, Ni-based, and Co-based materials) for flexible alkaline Zn-based batteries.

HOW TO DO

HOW TO MAKING A PEDAL OPERATED SIMPLE HACKSAW MACHINE:



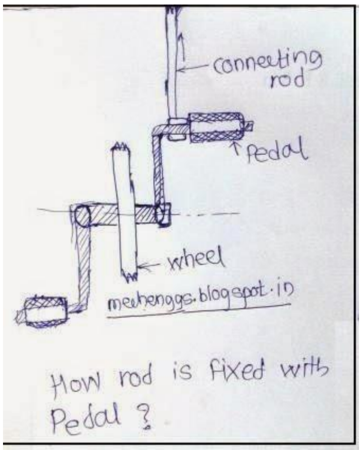
Unlike 'Pedal Operated Dual chain Hacksaw Project' Idea where two separate chains were used to drive the Hacksaw. This might be costly or somewhat complicated. In this article we are going to discuss a Pedal operated simple hacksaw project Concept. Pedal Operation convert Energy Input given by Operator to Circular motion of the wheel. Pedaling also useful as an exercise. Pedal Power is converted into mechanical work. This Circular motion of the pedal crank is converted into reciprocating or sometime oscillatory motion to drive Hacksaw blade. Generally Hacksaw is operated by manually, hydraulically, electrically motor or pulley commonly used in industries and workshop. 'To and pro' motion of the hacksaw blade should cut the required material.

Components requirement and their Design Guideline:

1. Bicycle Model:

Proper and comfortable seating arrangement must be design so it will produce less Operator Fatigue. Seat height is selected according to Ergonomics principles and Using anthropometric data. Other Dimensions of Frame should be selected by considering same effect. Handles should be there for proper pulling force or griping purpose. Simple pipes can be welded together to form a Frame with Seating and Stand arrangement.

2. Connecting Rod:



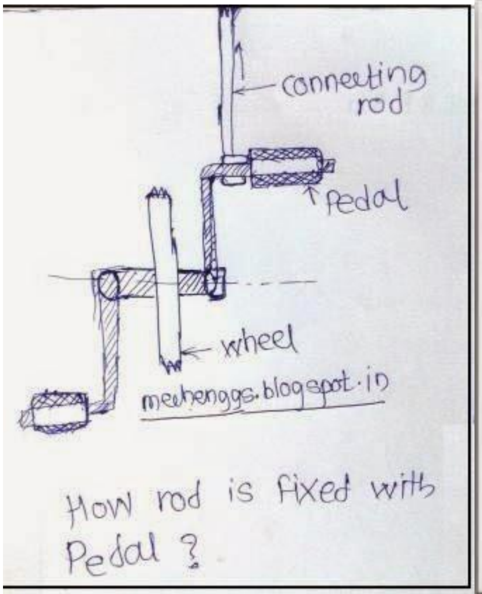
It is a simple rod which connect the Crank i.e. pedal shaft and Hacksaw Blade. The connection mechanism shown in figure. One end of rod is connected to pedal by using any scrap round part for exa.-Bearing recess. Hacksaw blade is connected by welding to other end of rod.

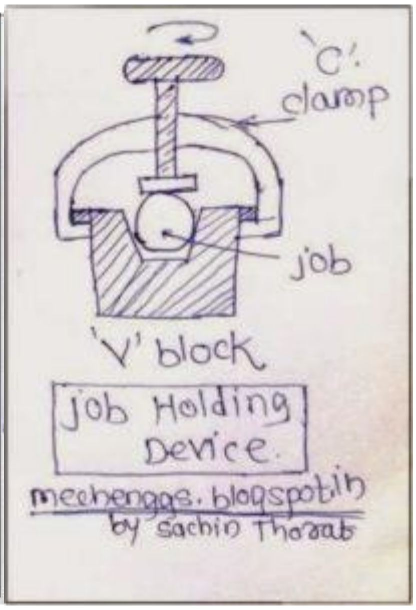
3. Hacksaw:

A hacksaw is a fine-tooth saw with a blade under tension in a frame, used for cutting materials suchas metal or plastics. Hand-held hacksaws consist of a metal arch with a handle, usually a pistol grip, with pins for attaching a narrow disposable blade.A screw or other mechanism is used to put the thin blade under tension.

4. V Block

V-Blocks are precision metalworking jigs typically used to hold round metal rods or pipes for performing drilling or milling operations. They consist of a rectangular steel or cast iron block with a 90-degree channel rotated 45-degrees from the sides, forming a V-shaped channel in the top. A small groove is cut in the bottom of the “V”. They often come with screw clamps to hold the work. There are also versions with internal magnets for magnetic work holding. V-blocks are usually sold in pairs.





Guide to Hacksaw

Hacksaw is guided by guide mechanism. One simple plate can be used to guide the Hacksaw blade.

Advantages:

• Power saving as it is manually operated

• Easy mechanism and simple construction

• As it is pedal operated so good for health

• Comfortable then ordinary hacksaw

Disadvantage:

• It's totally manually operated.

• Time consuming as compared to electrical power hacksaw

• Without human effort it's not operated.

• Not fit for heavy production.

INDUSTRY NEWS

LAUNCH BEHIND CHANDRAYAAN [1,2,3]

Chandrayaan-1

Chandrayaan means ‘Moon vehicle’ in both Sanskrit and Hindi, and Chandrayaan-1 was the first lunar spacecraft launched from India. It lifted off in October 2008, and was an orbiter mission. It also carried an impactor that was flung from the craft to the surface of the Moon for impact.

It was inserted into orbit in November 2008 and functioned till August 2009, at which point ISRO lost communication with the orbiter, which continues to orbit to this day without any communication.

The same month after reaching orbit, the Moon Impact Probe (MIP) separated from the orbiter and crashed into the South Pole of the Moon, displacing the soil on the surface. This led to the discovery of water ice underneath, and both the MIP results as well as the results of the NASA payloads on Chandrayaan-1 confirmed the findings.

The orbiter carried a terrain mapping camera to produce a full, high-resolution map of the Moon, a hyperspectral imager to perform mineralogical mapping, a lunar laser ranging experiment to measure the height of the surface, a high energy gamma and x-ray spectrometer for measuring radioactive elements, and the MIP from ISRO.

It also carried foreign payloads — a UK-Europe-India collaborative X-ray fluorescence spectrometer (used for chemical analyses of rocks) to measure the abundance of some elements and monitor solar flux, an atom reflecting analysis per to map minerals on the surface, the Moon mineralogy mapper from NASA for the same purpose, an infrared spectrometer from European Space Agency (ESA) also for the mapping minerals, a synthetic aperture radar from US to search for lunar polar water ice, and a radiation monitor experiment from Bulgaria to map radiation on the Moon.

The mission confirmed the presence of lunar water ice, as well as the magma ocean hypothesis that states that the Moon was a ball of liquid rock in the past. The mineralogy mappers have provided high-resolution spectral data, the spectrometers monitored solar flares, detected underground tunnels, and high-quality data was sent from the spacecraft.

Chandrayaan-2

The Chandrayaan-2 consisted of an orbiter, lander, and rover, of which the lander which housed the rover famously crashed a few seconds before touchdown. The orbiter is still functional and is expected to aid in communications with the Chandrayaan-3's lander. Chandryaan-2 took off in July 2019.

This mission's lander and rover were also named Vikram and Pragyan. The mission's primary scientific objective was to map and study the lunar surface composition, including the abundance of water ice.

The orbiter carried payloads for X-ray fluorescence spectroscopy to study elements on the surface, solar X-ray monitor to study the Sun's corona, a powerful synthetic aperture radar to probe the top few meters of the Moon's surface for water ice, infrared spectrometer to look for water at different wavelengths, atmospheric composition analyser to study the exosphere, a terrain mapping camera for imaging geology, orbital camera to prepare maps, and atmospheric science experiment to study electron density in the ionosphere. The lander and the rover carried identical payloads to the Chandrayaan-3 mission.

Chandrayaan-3

The present mission does not have an orbiter, but has a propulsion module that orbits the Moon and studies the Earth's atmosphere from there. It was launched in July this year and is scheduled to land on Moon Wednesday. The lander and rover together carry a total of six payloads.

The lander carries the Radio Anatomy of Moon Bound Hypersensitive ionosphere and Atmosphere (RAMBHA) to study the local gases and plasma in the Moon's environment and their variations, the Chandra's Surface Thermophysical Experiment (ChaSTE) to study the Moon's thermal conductivity and surface temperature, the Instrument for Lunar Seismic Activity (ILSA) for measuring the seismicity around the landing site and a passive Laser Retroreflector Array (LRA) from NASA that will allow for lunar laser ranging studies.

Pragyan has two payloads — the Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscopy (LIBS) which will analyse and map the elemental composition of the regolith (lunar soil) and negligible atmosphere in the neighbourhood of the landing site.

LUPEX/Chandrayaan-4

ISRO's next planned mission to the Moon is the Lunar Polar Exploration Mission (LUPEX), a planned collaboration with Japan Aerospace Exploration Agency (JAXA). The mission aims to send a lunar lander and rover to the Moon's South Pole, and it is expected to launch by or after 2026.

Japan will likely build the launch vehicle and the rover, while ISRO will build and operate the lander. It will carry payloads that will study the properties on the surface and drilled soil, and underneath. It will also look for water and water ice.

The mission is not approved or budgeted yet, and is in the early stages of being conceptualised. Chandrayaan-3's success will provide a much-needed impetus to it.

	Date of launch	Place of launch	Mission	What all is included
Chandrayaan-1	October 22, 2008	SDSC SHAR, Sriharikota	To provide a full map of the chemical composition at the surface and three-dimensional topography.	lunar orbiter and an impactor
Chandrayaan-2	July 22, 2019	SDSC SHAR, Sriharikota	To map and investigate differences in lunar surface composition, as well as the location and amount of lunar water.	lunar orbiter, a lander, and the Pragyan rover
Chandrayaan-3	July 14, 2023	SDSC SHAR, Sriharikota	Getting a lander to land safely and softly on the Moon's surface. Observing and showing the rover's ability to loiter on the Moon	lander and a rover

CASE STUDY

Space Exposure Challenges and Mitigation Strategies: A Case Study of [Specific 2023 Space Mission]:

The [Specific 2023 Space Mission] represents a significant milestone in space exploration, aiming to [briefly describe the mission's objectives and significance]. This case study examines the challenges of space exposure faced by the mission's crew and the strategies employed to mitigate potential risks.

Background:

Provide a brief overview of the [Specific 2023 Space Mission], including its goals, duration, and the number of astronauts involved.

Space Exposure Challenges:

Identify and discuss the various space exposure challenges relevant to the mission, including:

1. Vacuum of space.
2. Cosmic radiation.
3. Extreme temperatures.
4. Microgravity.

Health Risks and Effects:

Detail the potential health risks and physiological effects of prolonged space exposure, such as muscle atrophy, bone density loss, radiation exposure, and psychological challenges.

Mitigation Strategies:

Examine the strategies and technologies implemented to mitigate space exposure risks, including:

Spacecraft design features.

- Radiation shielding.
- Exercise and nutrition regimens.
- Psychological support.

Monitoring and Research:

Describe the methods and instruments used to monitor astronauts' health and well-being during the mission, as well as the research conducted to better understand the long-term effects of space exposure.

Results and Findings:

Summarize any key findings or insights from the mission related to space exposure challenges and mitigation strategies.

Conclusion:

Conclude the case study by discussing the importance of addressing space exposure challenges in future space missions and the potential implications for long-duration space travel and exploration.

EVENTS HELD DURING 2022-2023

ISHRAE HVACR HACKATHON NATIONAL FINALS 2022-2023

Multi-disciplinary Project (Mech & Civil) from Easwari Engineering College (Autonomous) titled Micro cooling Of Helmet using solar thermo electric generator won 2nd Runner up Place with the Cash Prize of Rs.50000/- in national level hackathon conducted by the Indian Society of Heating, Refrigerating and Air Conditioning Engineers on 6th March 2023

Team Members:

R.Sriram, III Mech Engg

K.G.Shyam Ganesh, III Mech Engg

Ms.E.Swetha, II Civil

Ms.S.Madhusree, II Mech Engg

Mentor:

Dr.K.R.Suresh Kumar,

Asst. Prof./Mech Engg

EVENT ON "ISTE GUEST LECTURE ON TRANSFORMATION IN AUTOMOTIVE INDUSTRY"

Topic : **Guest Lecture**

Date : **11-04-2023**

Time : **11:00 AM**

Venue : **Easwari engineering college**

Guest lecture is conducted by ISTE and Mechanical Engineering Department of Easwari Engineering College on 11th April 2023 at 11 AM for the student and faculty welfare of the Department of Mechanical Engineering. The Professor of the Mechanical department and ISTE Co-coordinator of Easwari Engineering College, Dr.S. Suyambazhahan, welcomed the chief guest and briefed the importance of the Guest Lecture. Followed by Dr. R. Ramadoss, Professor of the Mechanical department, overviewed the Mechanical department and Easwari Engineering College

The inaugural address and the guest lecture on the topic of "Transformation in Automotive Industry" are deliberated by the chief guest Dr. A. Ragothaman, Divisional Manager, Ashok Leyland, Chennai. He emphasized in the lecture various topics including performance steps: Load-Road, diverse mobility, autonomous driving and electrification. The lecture ended with a vote of thanks by Dr. K. Gopi Kannan, Assistant Professor of the Mechanical department

Event on "Guest lecture on "Career enhancement in mechanical Engineering""

Topic : **Career Enhancement**

Date : **26-04-2023**

Time : **02:00 PM to 03:30 PM**

Venue : **Easwari engineering college MBA HALL**

Easwari Engineering College hosted a significant event focused on "Career Enhancement in Mechanical Engineering." The event aimed to provide students with valuable insights into the mechanical engineering industry, career opportunities, and the skills required to excel in this field. Mr. Partha Sarathi Banik, the esteemed Director of Hein Lehmann India Pvt Ltd, was the keynote speaker.

Event Highlights:

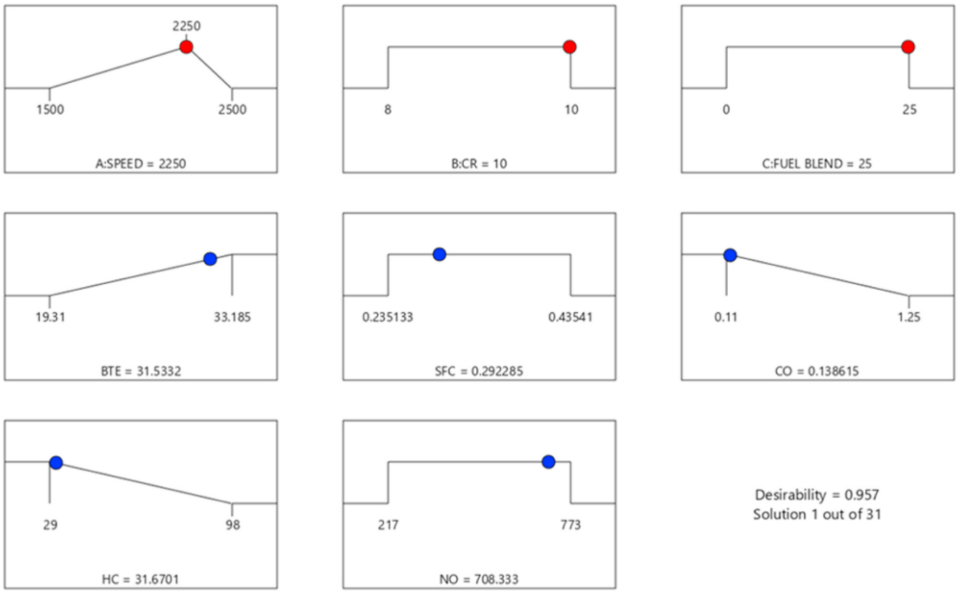
The event commenced with an introduction to Mr. Partha Sarathi Banik, highlighting his accomplishments and his contributions to the mechanical engineering field. He began his speech by discussing the current landscape of the industry, emphasizing the rapid technological advancements and their implications for aspiring engineers.

Conclusion:

The "Career Enhancement in Mechanical Engineering" event, featuring Mr. Partha Sarathi Banik as the speaker, proved to be an enlightening experience for attendees. His insights into the evolving mechanical engineering landscape, coupled with advice on skill development and personal growth, left a lasting impression on students. The event successfully achieved its goal of inspiring and guiding the next generation of mechanical engineers towards a successful and fulfilling career path.

INTERNATIONAL JOURNAL PUBLICATION

Seetharaman Sathyanarayanan , S Suresh, C.G. Saravanan, M. Vikneswaran ,Gopinath Dhamodaran, Ankit Sonthalia, J.S. Femilda Josephin, Edwin Geo Varuvel " Experimental investigation and performance prediction of gasoline engine operating parameters fueled with Di isopropyl ether-gasoline blends:Response surface methodology based optimization " Journal of Cleaner Production 375 (2022) impact factor : 11.07

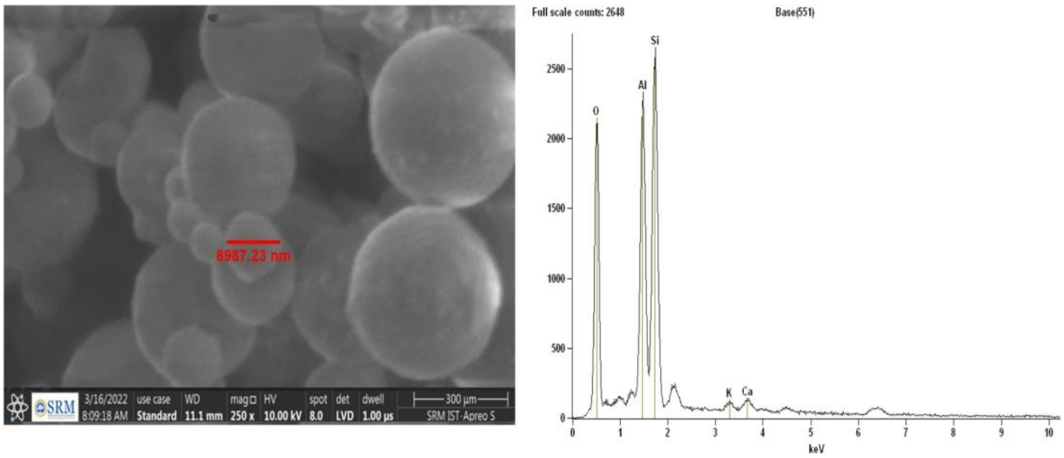


OPTIMUM DESIRABILITY RAMP GRAPH FOR ALL THE INPUT AND RESPONSES.

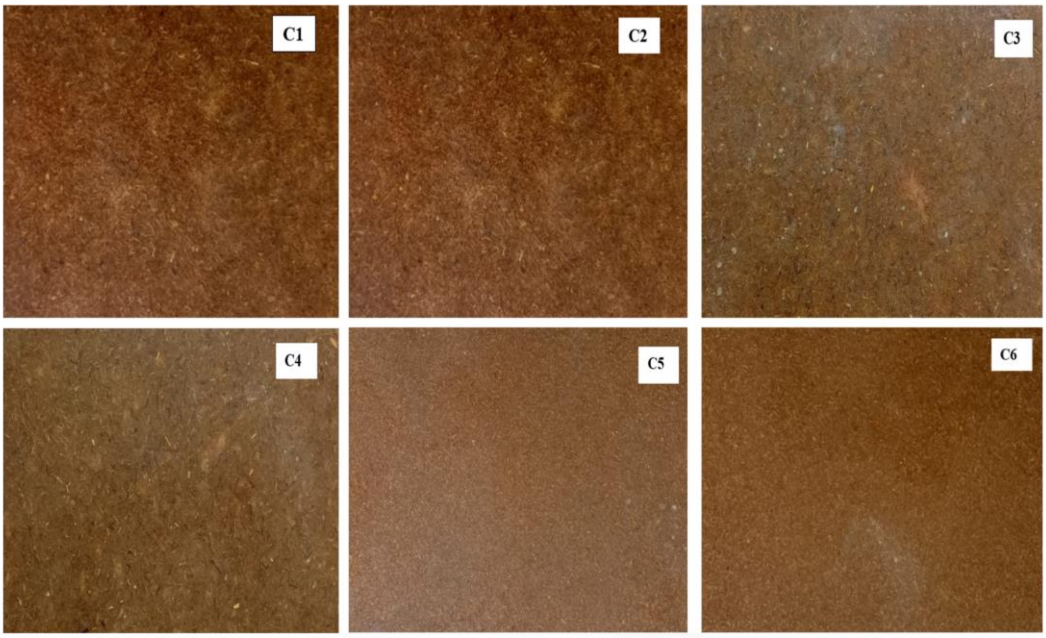
PHOTOGRAPHIC VIEW OF ENGINE SETUP.

INTERNATIONAL JOURNAL PUBLICATION

Ashok KG, Sathish Kumar GK, Kalaichelvan K, Ajith Damodaran and Bibin Chidambaranathan" Calotropis gigantea stem fibre reinforced thermoset plastics: Interlaminar shear strength and related tribo-mechanical properties ”Journal of Materials: Design and Applications. 1–20 (2022) impact factor: 2.66



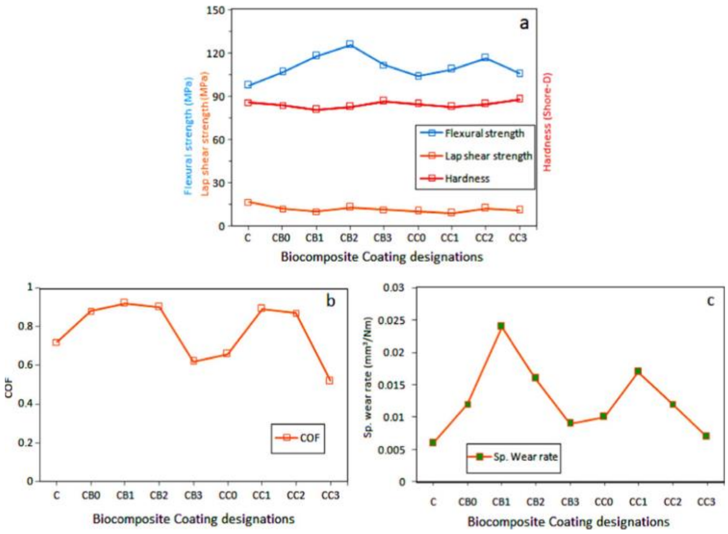
SEM AND EDX IMAGES OF NANOFILLER LFA.



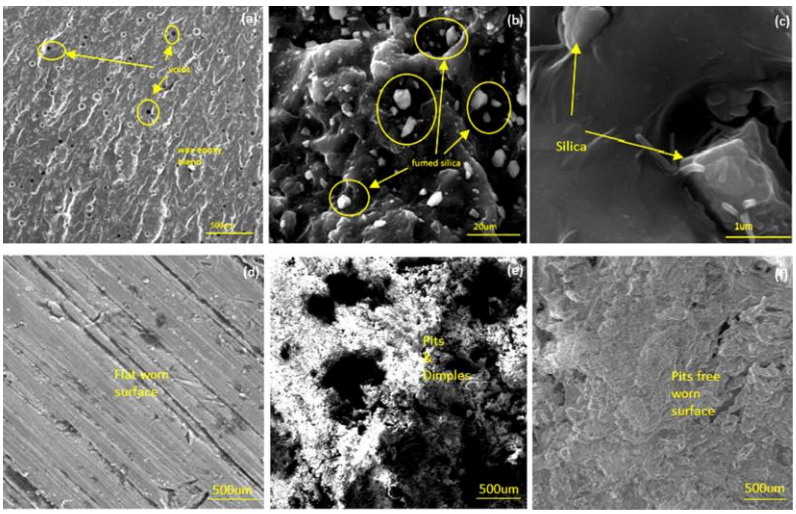
PHOTOGRAPHS OF PREPARED COMPOSITES.

INTERNATIONAL JOURNAL PUBLICATION

K. Thavasilingam, A. Senthil Kumar, D. Sakthimurugan, P. Meenatchisundaram" Synthesis and characterization of fumed silica dispersed bees/carnauba wax-epoxy bio composite coating: a comparative study" Biomass Conversion and Biorefinery. 8 (2023) impact factor: 4.05



MECHANICAL PROPERTIES OF COMPOSITES



SEM FRCATOGRAPH OF A WAX-EPOXY ADMIX, B FUMED SILICA IN CB3, AND C FUMED SILICA IN CC3 COMPOSITE COATING MATERIAL AND WORN SURFACE OF D PRISTINE EPOXY, E CB1, AND F CB3

Academic Year (2022-2023)

Sl. No.	Name of the faculty	Research Paper Title	Index	Impact factor	Month & Year	Journal Name
1.	S. Sathyanarayanan	Experimental investigation and performance prediction of gasoline engine operatingparameters fueled with diisopropyl ether-gasoline blends: Response surface methodology based optimization	SCI	11.07	September 2022	Journal of Cleaner Production
2.	K. Thavasilingam	Experimental assessment on the contact characteristics of 3D printed flexible poly lactic acid (PLA) soft fingertips	SCI	0.678	October 2022	International Journal of Material Research
3.	K. Thavasilingam	Synthesis and characterization offumed silica dispersed bees/ carnauba wax-epoxy biocomposite coating: a comparative study	SCI	4.05	March 2023	Biomass Conversionand Biorefinery
4.	J. Paulmar Pushparaj	Taguchi-Based Artificial Neural Network Modeling of Friction Process on Aluminum AlloyReinforced with SiC Nano particles	SCI	-	February 2023	Journal of Nanomaterials
5.	V. M. Jothiprakash	Optimization of Process Parameters for Friction Stir Welding of Different Aluminum Alloys AA2618 to AA5086 by Taguchi Method	SCI	2.09	February 2022	Advances in Materials Science andEngineering
6.	R. Ramadoss	Cocos nucifera husk biocarbonand FeSi3 on EMI shielding behaviorof PVA composites	SCI	4.05	November 2022	Biomass Conversionand Biorefinery
7.	S. Sathyanarayanan	Experimental study on dual oxygenates (ethanol, n-butanol) with gasoline on MPFI engineperformance and emission characteristics	SCI	3.5	February 2023	International Journal of Environmental Science and Technology
8.	S. Sathyanarayanan	Transesterification of waste cooking oil to biodiesel by walnutshell/sawdust as a novel, low-costand green heterogeneous catalyst: Optimization via RSM and ANN	SCI	6.4	January 2023	Industrial Crops & Products
9.	K. Giridharan	Friction stir processing of nanofiller assisted AISI 1010 steel-CDA 101 copper dissimilar welds: a strength factor approach	SCI	0.94	July 2022	Metallurgical &Research Technology
10.	M. Naresh Babu	Ionic liquids assisted LQL for turning PH steels: smartmethodology	SCI	4.78	February 2023	Materials and Manufacturing Processes
11.	Ashok KG	Calotropis gigantea stem fiber reinforced thermoset plastics: Interlaminar shear strength andrelated tribo-mechanical properties	SCI	2.66	September 2022	Journal of Materials: Design and Applications
12.	Ashok KG	Mechanical Performance of LuffaFiber Reinforced Polypropylene Composites using Injection Moulding	SCOPUS	NA	June 2022	Internat ional Journalof

						Vehicle Structures & Systems
13.	K.K. Naga Chandrika	Investigation of CI Engine Performance and EmissionCharacteristics of Biodiesel Blend with Aluminium Oxide	SCOPUS	NA	December 2022	Internat ional Journal of Vehicle Structures &Systems
14.	K.R. Sureshkumar	Effects of Hybrid Nanoparticles on Thermophysical Property of $Cu\text{-}TiO_2$ Embedded Palmitic Phase Change Material for Energy Storage Applications	SCOPUS	NA	December 2022	Internat ional Journal of Vehicle Structures & Systems
15.	K. Karthikeyan	Evaluation and Optimization of Plastic Pyrolysis Blends Performance on Diesel Engine with Ethanol Additive using Full Factorial Design	SCOPUS	NA	December 2022	Internat ional Journal of Vehicle Structures & Systems
16.	S. Prasanna Raj Yadav	Characteristics of a CRDI EngineFuelled by Waste Transformer Oil with High Fuel InjectionPressure	SCOPUS	NA	June 2022	Internat ional Journal of Vehicle Structures & Systems
17.	M. Raju	Investigation of Microstructural, Mechanical and Tribological Properties of Al8011-TiC Metal Matrix Nano- Composites	SCOPUS	NA	June 2022	Internat ional Journal of Vehicle Structures & Systems
18.	Dr. R. Ramadoss	Preparation and characterizationof Amino-silanized opuntia cladode Fibre and fumed silicatoughened epoxy composite	SCI	2.94 1	Nov 2022	Silicon
19.	Dr. K.G Ashok	Energy absorption performance of Kevlar/snake grass fiber composites under ballistic impact test with nano Al_2O_3 inclusion	SCI	5.2	July 2022	Polymer composites
20.	Dr. S. Suyambazhahan	CFD analysis of primary and secondary sodium flows and associated heat transfer on performance of an immediateheat exchanger in LMFBR	SCOPUS	NA	October 2022	InternationalJournal of Nuclear Energy Science and Technology
21.	Dr. S. Suyambazhahan	Computational Analysis ofThermal striping in primarysodium system of liquid metal fast breeder reactor using finite volume method	SCI	1.46	August 2022	Nuclear Science andEngineering
22.	Dr. M. Naresh Babu	Investigation of the characteristicproperties of graphene-based nanofluid and its effect on the turning performance of Hastelloy C276 alloy	SCI	5	Septemb er 2022	Wear
23.	Dr. R. Ramadoss	Mechanical, Wear and Fatigue Behaviour of Neem Oil and Nanosilica Toughened Areca Fibre Reinforced Epoxy ResinComposite	SCI	2.94 1	Jan 2023	Silicon
24.	Dr. R. Ramadoss	Subsequent alkali-silane treated cellulose-free veld grape fiber	SCI	4.05	March 2023	Biomass Conversion

		and Ziziphus jujuba microparticleepoxy composite: characterization study				and Biorefinery
25.	Dr. B. Elumalai	Property enhancement of 3Dprinted timber waste/PLA composite by surfacecoating	SCOPUS	NA	June 2023	Multidiscipli nary ScienceJournal
26.	Dr. A.K Babu	Numerical simulation of heat pump thin layer drying ofAmaranth leaves	SCI	2.902	July 2023	Energy Sources, PartA: Recovery, Utilization, And Environmental Effects
27.	Dr. M. Prasanth	A comparative study on X-ray peak broadening analysis of mechanically alloyed Al2O3 particles dispersion strengthened Al 7017 alloy	SCI	4.77	Nov 2022	Materials Chemistry and Physics
28.	Dr. A. Praveen Kumar	Axial and radial crushing behaviour of thin-walled carbon fiber-reinforced polymer tubes fabricated by thereal-time winding angle measurement system	SCOPUS	NA	January 2023	Forces in Mechanics
29.	Dr. M. Babu Dr. M. NareshBabu	Effect of silane-treated nanosilica on the grape seed oil-blended epoxy nanocomposite coating and its characterization	SCI	4.05	February 2023	Biomass Conversionand Biorefinery
30.	Dr. K. GiridharanMr. ChakravarthiGurijala	Biochar-assisted copper-steel dissimilar friction stir welding: mechanical, fatigue, and microstructure properties	SCI	4.05	April 2023	Biomass Conversionand Biorefinery
31.	Dr. M. Babu	Role of cashew shell biochar onEMI shielding behaviour of carbon fibre–epoxy nanocomposites in E, F, I and J band–microwave frequencies	SCI	4.05	March 2023	Biomass Conversionand Biorefinery
32.	Dr. M. Babu	Electromagnetic interference shielding behavior of flexiblePVA composite of tunicated onion bulb biochar/Co/carbon fiber shielding composite: effects on X and Ku band frequencies	SCI	4.05	March 2023	Biomass Conversionand Biorefinery
33.	Dr. A. Praveen Kumar	Effect of the number of stiffenerson the lateral deformation behavior of additively manufactured thin-walled cylindrical tubes	SCI	3.33	January 2023	Mechanics of AdvancedMaterials and Structures
34.	Dr. M. Naresh Babu	Ionic liquids assisted LQL forturning PH steels: smart methodology	SCI	4.78	March 2023	Materials and Manufacturi ng Processes
35.	Dr. A. Praveen Kumar	Evaluation of energy absorption enhancement of additively manufactured polymer composite lattice structures	SCOPUS	NA	March 2023	Functional Compositesand Structures
36.	Mr. SakthimuruganD	Wire-cut electrical discharge machining of novel MMCs usingsilane-treated corn cob biosilica-deionized green dielectric: a cleaner production approach	SCI	4.05	January 2023	Biomass Conversionand Biorefinery
37.	Dr. K. Giridharan	Sustainability improvement byutilizing polymer waste as an energy source for a diesel engine with alcohol additives	SCOPUS	NA	March2023	Environmental Research and Technology
38.	Dr. M. NareshBabu	Detailed studies on employingfish canning waste as a partial alternative in a researchdiesel engine: Waste to energy initiation	SCI	2.82	March2023	Environmental Progress & Sustainable Energy

Thank You!

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