

VOLUME XVI - B

2023-2024

ODD SEMESTER

ALMANAC

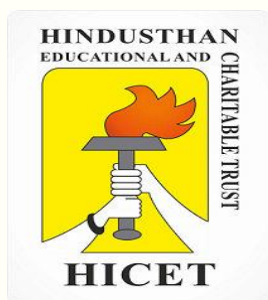
DEPARTMENT OF MECHANICAL ENGINEERING

NEWS LETTER



FROM THE EDITOR'S DESK

Warm greetings! I take immense pleasure and privilege to pen a few words for our college Newsletter. A recap of all the activities and programmes that were conducted during the academic year 2023-2024 is presented in this edition. Eminent speakers from industries, premier institutions and professional academies were invited to share their valuable experience and knowledge with our anxious students. With razor sharp perfection, all these activities were unitedly conducted by a team of energetic, enthusiastic faculty of our department. We are highly indebted to the invaluable assistance and support extended by the Management, CEO, Principal, department staff, office staff and other for all our entire endeavors.



Dr.K.Siva
Head of the Department
Mechanical Engineering

DEPARTMENT VISION

To provide quality technical education in Mechanical Engineering and build holistic professionals who can excel in the engineering establishments and serve for the country with ethical values.

DEPARTMENT MISSION

M1: To prepare graduates with good technical skills and knowledge.

M2: To prepare graduates with life-long learning skills to meet the requirements in the higher education and in society.

M3: To prepare graduates as a successful entrepreneur with employment skills, ethics and human values.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Graduates able to apply technical expertise and skills to face the Industrial challenges.

PEO2: Graduates able to design create and innovate economically, environment-friendly and technically feasible products with social acceptance.

PEO3: Graduates able to exhibit professionalism in their profession with good communication, ethics and entrepreneurship skills to meet the social challenges.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1: Able to design, analyze and apply knowledge in complex mechanical engineering problems with time effective solutions.

PSO2: Able to understand the relevance of engineering practices for societal requirements and become a multi faceted leader.

PROGRAMME OUTCOMES (POs)

Engineering Graduates will be able to

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

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.

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.

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.

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.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

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.

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

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

FACULTY ACHIEVEMENTS

S.No	Name of the principal Investigator & CO-Investigator	Title of the project	Funding Agency, Duration & Date of Sanction	Amount (in Lakh)
1.	Dr.K.Siva Professor	Bharath Cycle Design Challenge	AICTE	0.40 Lakhs
2.	Dr.Y.Ras Mathew, Associate Professor			
3.	Dr.K.Siva Professor	Tomato Grand Challenge	AICTE	1 Lakhs
4.	Dr.Y.Ras Mathew, Associate Professor			
5.	Dr.K.Siva Professor	"Vertical axis wind turbine with flapping Mechanism".	Mentor for MSME Funded Project	14 Lakhs
6.	Dr.Y.Ras Mathew, Associate Professor		Received MSME Funded Project	
7.	Dr.Y.Ras Mathew, Associate Professor	Smart Coconut Harvester	Mentor for MSME Funded Project	12.5 Lakhs

PATENT DETAILS

S.No	Name of the Author(s)	Title	Application No./ Patent No.	Status (Filed/Published/Granted)
1	Dr.K.Siva Dr.Y.Ras Mathew	Vertical Axis Wind Turbine For Wind Energy Based Power Generators	202241013993	Granted
2	Dr.K.Siva Dr.Y.Ras Mathew	FIRE SPRINKLER	202141049995 A	Granted
3	Dr.C.Nithyanandam	Solar Air Car Purifier	355142-001	Granted
4	Dr.L. Karthick,	Automatic adjustable seed sowing Machine	367588-001	Granted

PROGRAMMES CONDUCTED



HINDUSTHAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
AN AUTONOMOUS INSTITUTION, APPROVED BY AICTE, ACCREDITED WITH NBA,
ACCREDITED WITH "A++" GRADE BY NAAC
COIMBATORE-32

DEPARTMENT OF MECHANICAL ENGINEERING
Invites you all for
One Day workshop on

"WORKSHOP ON AUTOCAD"
TIME : 10 AM - 1 PM

&

"WORKSHOP ON GD & T"
TIME : 2 PM - 4.30 PM

Date 6/11/23

Coordinator
NAZEER AHAMED A
AP/MECH

Convenor
Dr.K.SIVA
HOD/MECH
DEAN-IIS

Venue
GANGA
HALL

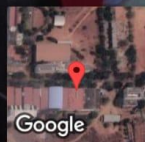
PATRONS

Dr.J.JAYA
Principal

Dr.K.KARUNAKARAN
CEO



Resource Person
Mr.ARUMUGAM VELUSAMY
Senior CAD Engineer
Puma Technovation
Coimbatore



GPS Map Camera
Malumichampatti, Tamil Nadu, India
VXRR+4QV, Malumichampatti, Tamil Nadu 641050, India
Lat 10.890572°
Long 76.991896°
06/11/23 10:56 AM GMT +05:30

Workshop on
"Auto CAD 7 GD &T"

Chief Guest
Mr. Arumugam Velusamy
Senior CAD Engineer
Puma Technovation, Coimbatore

Date : 06/11/2023

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COIMBATORE-32

DEPARTMENT OF MECHANICAL ENGINEERING

Invites you all for
One Day workshop on

**"Entrepreneurship in
AI era for
Mechanical Engineers"**

Date: 8/11/23 TIME: 2 PM - 4.30 PM Venue: GANGA HALL

Resource Person
Mr.KARTHIK R
Entrepreneur & Speaker on current affairs
2k Speakathon
Coimbatore

Coordinator
NAZEER AHAMED A
AP/MECH

Convenor
Dr.K.SIVA
HOD/MECH
DEAN-IIS

PATRONS

Dr.J.JAYA **Dr.K.KARUNAKARAN**
Principal CEO



Workshop on

"Entrepreneurship in AI era for Mechanical Engineers"

Chief Guest

Mr.Karthick R

Entrepreneur & Speaker on Current Affairs

2K Speakathon

Coimbatore



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COIMBATORE-32

DEPARTMENT OF MECHANICAL ENGINEERING

Invites you all for

Seminar on

GATE way to Excellent Career Opportunities



Resource Person

Dr. A. Saravanakumaran

Center Head

GATE Forum & Radian IAS Academy
Coimbatore

Date
24/11/23

Venue
GANGA HALL

Time
9.30AM - 10.30 AM

Coordinator
NAZEER AHAMED A
AP/MECH

Convenor
Dr.K.SIVA
HOD/MECH
DEAN-IIS

PATRONS

Dr.J.JAYA
Principal

Dr.K.KARUNAKARAN
CEO



Seminar on

GATe way to Excellent Career Opportunities

Resource person

Dr. A.Saravanakumaran

Center Head

GATE forum & Radian IAS Academy
Coimbatore

PAPERS PUBLISHED BY FACULTY

S.No	Calendar Year	Title of paper	Name of the author/s	Name of Journal
1.	2023-24	Design and Analysis of Tornado Strainer	K.Siva, C.Nithyanandam, R.Sakthi, S. Sanjai	International Journal of Science, Engineering and Technology
2.	2023-24	Experimental investigations on a solar heat pump system having hybrid collector with dual cooling arrangements for delaying frost generation.	A. James, B. Arun K Raj, M. Srinivas, M. Mohanraj, S. Jayaraj.	Thermal Science and Engineering Progress
3.	2023-24	Energy performance and economic assessments of a solar air collector and compression heat pump water heater integrated solar humidifier desalination system	S. Sivakumar, K. Siva, M. Mohanraj,	Journal of Processes Mechanical Engineering
4.	2023-24	Exergetic performance of a jet impingement bifacial photovoltaic-thermal (PVT) solar air collector with different packing factors and jet distributions.	W.E. Ewe, K. Sopian, M. Mohanraj, A. Fudholi, N. Asim, A. Ibrahim.	Heat Transfer Engineering
5.	2023-24	Efficacy of refrigerants in thin metallic coated wickless heat pipes; a comparative study.	C. Senthilkumar, A.S. Krishnan, A.B. Solomon,	Journal of Processes Mechanical Engineering

			M. Mohanraj,	
6.	2023-24	Numerical performance investigation of a photovoltaic-thermal hybrid collector-evaporator with different tube configurations for heat pumps.	A. James, S.R. Sahoo, A.K.Raj, M. Mohanraj, M. Srinivas, S.	Journal of Processes Mechanical Engineering
7.	2023-24	Experimental investigation and modelig of date drying under forced convection solar dryers.	T, Seerangurayar, A.M. Al-Ismail, L.H.J. Jeewantha, G. Jeevarathinam, R. Pandiselvam, S. Dinesh kumar, M. Mohanraj, Punit Singh.	Biomass Conversion and Biorefinery
8.	2023-24	Performance of Direct Expansion Photovoltaic-Thermal Evaporator Assisted Compression Heat Pump Water Heaters using a Zeotropic Mixture	J Yogaraja, M Mohanraj, J Manikandan P Muthusamy	Solar Energy
9.	2023-24	A Robotic Manipulator's Design and Performance Using in Casting Industry to Manage a Shell Adapter	Dr.C. Nithyanandam , Dr. S. Deepa Shri , Dr.V. Senthil Murugan	Technoarete Transactions on Industrial Robotics and Automation Systems
10.	2023-24	Artificial Intelligence and Advanced Technology based Bridge Safety Monitoring System	Dr.J.Manikandan	Proceedings of the Sixth International Conference on I-SMAC (IoT in

				Social, Mobile, Analytics and Cloud) (I-SMAC-2022).
11.	2023-24	Wind Energy System using Boost Converter with Three Phase Inverter	Dr.J.Manikandan	Proceedings of the Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC-2022).
12.	2023-24	Metal Oxide Semiconductor Nanostructures Surface Properties for Gas Sensing – A Review	Dr.J.Manikandan	Proceedings of the Sixth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC-2022).
13.	2023-24	Rapid Prototyping Technology	Dr.C.Nithyanandam	International Journal of Research in Engineering and Science
14.	2023-24	Optimizing the Performance of an Automatic Clamping System for Gear-Shaping	Dr.C.Nithyanandam	International Journal of Scientific Research in Engineering and Management (IJSREM)
15.	2023-24	A MACHINE TO MAKE SOAP FROM USED COOKING OIL	Dr.C.Nithyanandam	International Journal of Current

		USING SEMI AUTOMATIC PROCESS		Science
16.	2023-24	Design and Analysis of Centrifugal Pump Impeller Made of Glass Fiber Material	Dr.C.Nithyanandam	International Journal of Research and Analytical Reviews
17.	2023-24	Influence of Nano-/Microfiller Addition on Mechanical and Morphological Performance of Kenaf/Glass Fibre-Reinforced Hybrid Composites	L.Karthick	SCI PAPER
18.	2023-24	Heat Index Based Optimisation of Primary Process Parameters in Friction Stir Welding on Light Weight Materials	L.Karthick	SCI PAPER
19.	2023-24	Energy performance of a compression refrigeration cycle using environment-friendly refrigerants	L.Karthick	JOURNAL
20.	2023-24	The 2nd International Conference on Renewable Technologies In Engineering (ICRTE-22	Dr.C.Nithyanandam, Dr.K.Siva , Dr.V.Senthil Murugan, Mr.K.Sriharrish,	International Conference

Author Name	Book Title	Publisher
Dr.K.Siva	Engineering Graphics	Maruthi
Dr.K.Siva	Engineering Practices laboratory Manual	Cengage
Dr.J.Manikandan	Machine Design	Jayalakshmi Publishers
Dr.J.Manikandan	Fluid Mechanics	GCS Publishers
Dr. K. Kalaivani, Ms. Sai Preethi, Dr. P. Jeyalakshmi , Dr. G. Valarmathi	Thermoelectric Dehumidifier Based Water Generator	IIP Series
C. Nithyanandam, K. Siva, V. Senthil Murugan, and K. Sriharrish	Renewable Energy Optimization, Planning and Control Proceedings of ICRTE 2023	Springer Nature
L. Karthick Parth Gaud, C. Sailaja, Kode Jaya Prakash, Yagya Dutta Dwivedi	Applications of Nano-Fluids in the Various Engineering Fields	IGI Global
Ajay Reddy, L.Karthick, R.Roopu	Advancing Health Monitoring with cognitive IOT,Rapid ML and Mechanical System	IGI Global
L.Karthick, Laxmi Mishra, Ganesh Babu, Ravivarman, S.Saravanan	AI- Empowered smart electricity system with predictive maintenance integration	IGI Global

Madhumitha, Elangovan, Atowar, L.Karthick	Cutting Edge AI-Powered driverless delivery solution	IGI Global
P.Prabhakaran, Mukesh, Kaushal, Ganesh Babu, L.Karthick	Integrating Mechanical systems with Biological inspiration: Implementing sensor gating in AI vision	IGI Global
S.Kavitha, L.Karthick, R.Prabhu, Atowar Islam	Utilizing Cutting edge AI technology in geriatric care microbotics	IGI Global
Hemanth kelagadi, L.Karthick, Ravikiran, Raj thilak	An enhanced taxi demand perception system suing fusion and automated sensor integration	IGI Global
Ketut Adi wirayasa, Abhijeet, Madhumitha, L.Karthick	ML based HR business intelligence with predictive maintenance Integration	IGI Global
L.Vadivukarasi, L.Karthick, Dler, Rajesh sharma, Durga devi	Nurturing Human Robot interaction & crucial role of dialogue & explicit AI	IGI Global
L.Karthick, Senthil Kumar K, Vadivukarasi L, Dler, R. Aarthi	Advanced Electronic Healthcare Application Using Mechanical Renewable Energy for Long-Term Population	IGI Global
Dr. L. Karthick	Manufacturing Engineering and Technology	VA Book Publication

Dr. L. Karthick, S.Sivakumar	Strength of Materials	VA Book Publication
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FACULTY AWARDS

S. No	Name of Faculty	Date of Award	Name of the Award	Name of the Professional Society
1.	Dr.K.Siva	2022-2024	Secretary for SAEINDIA Southern Section Management Committee	SAEINDIA
2.	Dr.K.Siva	2022-2024	Chairman for <u>Division Management Committee – Coimbatore</u>	SAEINDIA
3.	Dr.M.Mohanraj	2023	Recognized as a top 2% scientist	Standford University USA
4.	Dr.M.Mohanraj	2023	Outstanding Reviewer in Energy Journals	Elsevier
5.	Dr.Y.Rasmathew	2022-2024	Treasurer for <u>Division Management Committee – Coimbatore</u>	SAEINDIA

STUDENT ACHIEVEMENTS

S. No	Name of the Student	Class	Name of Project	Fund received Y/N	Amount in (Rs.)
1.	Tamilnadu State Government	IV MECH	Niral Innovation Challenge	Y	10,000
2.	AICTE -VAANI Scheme	IV MECH	Smart City & Mobility	Y	2,00,000
3.	Tamilnadu State Government	IV MECH	Niral Innovation Challenge	Y	10,000
4.	Tamilnadu State Government	IV MECH	Niral Innovation Challenge	Y	10,000
5.	TNSDC	IV MECH	Two stage cascade heat pump in high temperature	Y	10000
6.	HICET (Research Seed Money)	IV MECH	Heat Pump assisted desalination system	Y	160000

7.	BIS	IV MECH	Youth to Youth Connect Campaign	Y	30000
8.	Tamilnadu State Government	IV MECH	Niral Innovation Challenge	Y	10,000



VNIT INSTITUTE OF TECHNOLOGY, NAGPUR

NSVC-SOLAR 2023



Date	27-11-2023
Venue	VNIT, Nagpur
Achievement	Best Acceleration award Autocross B Award Best Endurance Light weight award Overall Runner-up
All Indian Rank	2 nd rank all over India with Four award





AICTE-BCDC 2023



Hindusthan College of Engineering and Technology (Coimbatore) students looking cheerful with their vehicle securing 1st place for the “Bharath Cycle Design Chalange” competition.

Date	2-09-2023
Venue	Bangalore
Achievement	Overall Champion
All Indian Rank	1 st rank all over India



CHIEF EDITOR

**Dr. K.Siva, M.Tech., Ph.D.
Professor and Head**

EDITORS

**Mr.A.Nazeer Ahamed, M.E., Ph.D*,
Assistant Professor**

