



VISWAJYOTHI

COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University



**NEWS
LETTER**

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Vol : 12

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MECHANIMOUS

DEPARTMENT OF
MECHANICAL ENGINEERING

INSTITUTE VISION

"Moulding Professionals par Excellence with Integrity Fairness and Human Values".

INSTITUTE MISSION

1. We commit to develop the institution as a Center of Excellence of International Standards
2. We guide our students in the attainment of intellectual and professional competence for successfully coping with the rapid advancements in technologies and the ever changing world of business, industry and services
3. We help each and every student in their personal growth into mature and responsible individuals
4. We strive to cultivate a sense of social and civic responsibility in our students, thus empowering them to serve humanity.
5. We promise to ensure a free environment where quest for the truth is encouraged

DEPARTMENT VISION

"Moulding socially committed engineers capable to meet the global challenges in the mechanical engineering stream."

DEPARTMENT MISSION

- To provide ample facilities to foster excellent ambiance for teaching learning process in the department.
- To enhance the creative ideas, analytical talents and soft skills in the students to cope up with the emerging trend in technical field.

- To enable the students to meet real life problems in mechanical engineering with a zeal to human and ethical values.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Our graduates shall have

- PEO1** Strong base in Mathematics, Science, and Mechanical Engineering to face and handle the challenges in real world engineering problems in society and industry.
- PEO2** Passion for Mechanical Engineering to select an area of specialization, pursue higher studies, choose a career, lifelong learning in industry, research and academics.
- PEO3** Basic knowledge in other disciplines to tackle and coordinate Interdisciplinary real life problems
- PEO4** Soft skills, discipline, confidence, self esteem, and ethical values.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1** Students shall be competent, creative and imaginative mechanical engineers employable in fields of design, research, manufacturing, safety, quality, technical services.
- PSO2** Students shall be able to progress through advanced degree, certificate programs or participate in continuing education in mechanical engineering, business, and other professionally related fields.

PRINCIPAL'S MESSAGE



In the words of Moshe Feldenkrais, "We act in accordance with our self-image." Every one of us has goals and aspirations for our lives, but in order to accomplish those goals and aspirations, we need to have a strong resolve, be dedicated to our work, have persistence, and put in our actions are directed in a certain direction based on the picture that we have of ourselves. The manner in

which a person views themselves is an important factor in determining their level of self-respect, which, in turn, influences their level of respect for others. Our self-image improves as a result of the connection that exists between our body and our soul, which also results in the emergence of a more elevated personality that contributes positively to society. Receiving a solid education is essential to attaining a healthy and positive view of oneself. I would like to express my gratitude to both the teaching staff and the students of the department for the remarkable accomplishments that they have achieved.

Dr. K.K.Rajan

HOD'S MESSAGE



A warm and Green Greetings from the Department of Mechanical Engineering at VJCET. I would like to share with you the 12th volume of "Magnanimous", Department of Mechanical Engineering Newsletter. The Department has been simply unstoppable in its progress as it has been actively involved in various activities that have

brought to light the hidden talents of our students and staff. The Department is striving hard continuously to improve upon the quality of education and to maintain its position of leadership in engineering and technology. I take this opportunity to congratulate all the team members and the publication team in particular for their commendable effort in bringing out the 12th successful issue of Mechnanimous. Invictus Is a group consisting mainly of Mechanical engineering students, but we are open to students of all disciplines. As a team, we work collaboratively to design, build and test All-Terrain Vehicle which we take to numerous competitions around India. Our Department has been conducting various technical webinars / seminars to keep our faculties and students up-to-date with the latest technology, in the field of technical education. Hope this will impact our program with tremendous positivity and will help to reach our goal of making all our students well-trained and qualified mechanical engineers in India and abroad.

Dr. Shunmugesh K

INTRODUCTION

The Department of Mechanical Engineering has three tenets that centre on the principle of improving lives and livelihoods: to create knowledge through research in science and technology of mechanical engineering domain; to share knowledge through educational programs and the dissemination of our new discoveries; and to develop the professional potential of faculty, staff, and students. Department of Mechanical Engineering expands the frontier of human knowledge in the discipline of mechanical engineering through fundamental and applied research conducted by faculty and students. Our land-grant mission is based on the premise that knowledge is beneficial to mankind and the greatest benefit comes from dispersing knowledge as widely as possible. We share knowledge with our students through educational programs and all of society through disseminating our research findings in scholarly publications, presentations, patents, entrepreneurship and technology transfer. Through classroom, laboratory and project-based instruction, undergraduate and graduate students are well served by a curriculum that is based upon the fundamental principles of mechanical engineering, as well as forward looking and set within the context of our profession's social mandate. Our curriculum prepares students for diverse and successful careers across the global engineering marketplace, and it further fosters creativity and critical thinking skills through research and design experiences.

MESSAGE FROM THE EDITORIAL BOARD

The department cares for student support, mentoring, tutoring, study skills workshops and career development. During the last semester, the participation of mechanical engineering faculties and students in various training program, international certification courses and webinars was the most encouraging factor, which we want to continue in coming years also. The department also aims to recognize the extra talent of our students other than academics and motivate them to shine in their respective fields

FACULTY ACHIEVEMENTS

- **Dr. Sajan T John** Associate Professor MED got sanction for a KTU sponsored faculty development program on "Data analytics for decision making".
- **Mr. Nidheesh K** successfully completed NPTEL course in IC Engines and Gas Turbines during 03/Jan/2022 to 29/Apr/2022.

FACULTY RESEARCH PAPERS IN JOURNALS AND CONFERENCES

- **Mathew S, Shunmugesh K.** Application of grey-fuzzy logic for the optimization of drilling parameters for coir fibre reinforced composite.

Materials Today: Proceedings. 2022 Aug 22.

- Harigovind S, **Shunmugesh K.** Multi response optimization and regression analysis of milling parameters of jute fibre reinforced epoxy composite. Materials Today: Proceedings. 2022 Sep 1.
- **Shunmugesh K, Raphel A, Unnikrishnan T G,** Akhil K T. Finite element modelling of carbon fiber reinforced with vespel and honeycomb structure. Materials Today: Proceedings. 2022 Aug 30.
- Padmakumar A, Madhavan AP, Joseph J, **Shunmugesh K.** Transient Thermal Analysis on Rotary Friction Welding of 15CDV6 Aerospace Steel. Transactions of the Indian Institute of Metals. 2022 Oct 19:1-0.
- **Arun Raphel,** Vivekanandhan P, Arun Kumar Rajasekaran, Kumaran S, "Tuning figure of merit in Na doped nanocrystalline PbSnTeSe high entropy alloy via band engineering", Materials Science in Semiconductor Processing, Volume 138, February 2022, 106270, ISSN 1369-8001, <https://doi.org/10.1016/j.msssp.2021.106270> (SCI indexed)
- **Arun Raphel,** Thermal spray coating of Fe – WC – Co alloy Proceedings of 2nd International Conference on Advances in Manufacturing and Material Science.
- **Arun Raphel,** Airdrop Floater, Proceedings of National Conference on Emerging Vistas in Engineering & Management 2022 pp1-9.
- **Arun Raphel,** Surface modification using Thermal Spray Coating, Proceedings of National Conference on Emerging Vistas in Engineering & Management 2022 pp1-9.
- **Dr. Arun Raphel** participated in the Indo-Norwegian International Online Conference on FARAON-2022 organized by the Institute for Energy Technology (IFE), University of Oslo (UiO), Norway, and Madurai Kamaraj University (MKU) India.
- **Akash Paul Savio** et.al published a paper on Design and Analysis of Composite Bumper in International Journal of Advances in Engineering and Management (IJAEM) Volume 2 Issue 1 pp: 01-05 ISSN: 2395-5252.
- **Akash Paul Savio** et.al published a paper on Design of Pepper Segregator in International Research Journal of Modernization in Engineering Technology and Science ISSN: 2395-5252.
- Georgekutty Joseph, George Jovan, Jismon V J, **Eldhose Paul,** Jismon V J, presented a paper titled "Automatic height adjusting mike stand" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- Karun Das Shibu, Mathew Mathew George, Varghese Mathew,

Eldhose Kurian, presented a paper titled "Wire arc additive manufacturing of a wall geometry" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.

- Milen Maxy P, Johns T Somy, George Mathew, Deyon Wilson, **Arun K,** presented a paper titled "Fiber metal laminate reinforced with hybrid basalt –sisal fiber" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- Snobin Mathew., Nigel Mathew., Tom Thomas., **Arun K R.,** presented a paper titled "Wire arc additive manufacturing of cylindrical components using cold metal transfer arc welding process" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- Abil Justin, Albert Dennys, Amal Sathyan, **Unnikrishnan T.G, Arun Raphel,** presented a paper titled "Thermal spray coating off E – WC – CO alloy" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.

FACULTY TRAINING

- **Dr. Arun Raphel** attended VGST, Govt of Karnataka, Sponsored Online Faculty Development Programme on "Recent Developments in Advanced Materials Processing Techniques and Characterization" organized by Department of Chemistry, School of Engineering, Presidency University, Bengaluru from 21st to 25th February 2022.
- **Dr. Arun Raphel** attended a one day webinar on IP Awareness /Training program under National Intellectual property awareness Mission July 04, 2022.
- **Dr. Arun Raphel** attended a one day webinar on Provisional Patent Filing organized by Turnip Private Limited, Kolkata on 4th March 2022.

PROGRAMS ORGANIZED BY THE DEPARTMENT

- Inauguration of Mechanical Engineering Association MAGNA'

2022 was done by Dr Padmakumar M, Manager-Product Engineering, Kennametal Shared Services Pvt Ltd, Bangalore and delivered a technical talk on "INDUSTRY 4.0" on 27.01.2022.

- **An Expert Talk** on "Importance of bridging the gap between industry and academics" on 13.04.2022.
- **An Expert Talk** on "Importance of MEP and HVAC for mechanical engineers in the present world" on 26.04.2022.
- **A Workshop** on "FUSION 360-YUGO" on 19.05.2022.
- **An Expert talk** on "Superbikes-Clutchless" on 19.05.2022.
- **A Workshop** on "ECU Tuning-Remapped" on 20.05.2022.
- **A Technical Competition** "CNC 2D Plotter Drawing competition-PICASSO 2.0" on 20.05.2022.

STUDENTS AWARDS AND ACHIEVEMENTS

- **Basil P Sajeev, Athul M Nair, Alby Jose, Thomas T Paulose**, presented a paper titled "Development and analysis of an eco-friendly and biodegradable nano grease from palm oil" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Basil Joy, Manu Antony, Akash Thomas, Akash Paul Savio**, presented a paper titled "Banana fiber and banana peel powder reinforced composites" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Basil Shaji., Basil Varghese M., Peter K George**, presented a paper titled "PLA based hybrid composite" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Cyriac Jacob, Paul Baby, Mohammed Shahal, Dr. Shunmugesh K**, presented a paper titled "Cellular structures for bone implants" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Fredin Johnson, Gokul K Vijayan, Basil Varghese, Ebimon Sebastian**, presented a paper titled "Design and analysis of tail race

energy generation system" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.

- **Harigovind S, Basil Mathew Abraham, Harikrishnan M G**, presented a paper titled "Design and analysis of aluminium-magnesium wheel rim made using FSW technology" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Austin Baby, Don George Alex, Jibin George, Joseph Thomas**, presented a paper titled "Design and analysis of F1 rear wing" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Georgekutty Joseph, George Jovan, Jismon V J, Eldhose Paul, Jismon V J**, presented a paper titled "Automatic height adjusting mike stand" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Joseph Salas, Amal Mathew Sajan, Nikhil Sanoj**, presented a paper titled "Design and fabrication of noni juice extractor" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Mathew C Vamattam, Vinu K Vijayan, Judson Jose, Goutham Gopinathan**, presented a paper titled "Study of vortex suppression on asymmetric bluff body" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Karun Das Shibu, Mathew Mathew George, Varghese Mathew, Eldhose Kurian**, presented a paper titled "Wire arc additive manufacturing of a wall geometry" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and

Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.

- **Melvin Eldo, Kailasnadh K J, Deepak Thomas, Nijo Jomon**, presented a paper titled "AIR DROP FLOATER" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Milen Maxy P, Johns T Somy, George Mathew, Deyon Wilson, Arun K**, presented a paper titled "Fiber metal laminate reinforced with hybrid basalt –sisal fiber" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Nayan Rajeev, Mathew Raj, Ajesh Shah, M Krishna Prasad**, presented a paper titled "IOT- enabled IR household cloth dryer" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Harshil James, Pranav Lal V R, Rishikesh V K, Sam George Thomas**, presented a paper titled "Domestic plastic pelletiser" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Snobin Mathew., Nigel Mathew., Tom Thomas., Arun K R.**, presented a paper titled "Wire arc additive manufacturing of cylindrical components using cold metal transfer arc welding process" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Vishnu Raju, Sidharth T.S, George Martin, Goutham Krishna**, presented a paper titled "Smart solar panel cleaning system using IOT" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **Abhijith Shibu, Amal Chacko, Devanarayanan S**, presented paper titled "Analysis of jute fibre epoxy composite infused with carbon black

nanoparticles" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.

- **Abil Justin, Albert Dennys, Amal Sathyan, Unnikrishnan T.G, Arun Raphel**, presented a paper titled "Thermal spray coating off E – WC – CO alloy" in 2nd International Conference on Advances In Manufacturing and Material Science 2022 conducted by Dept. of Mechanical Engineering, Muthoot Institute of Technology and Science, in association with: Dept. of Polymer Technology, Gdařsk University of Technology.
- **22 students** from Mechanical Engineering department participated in BAJA SAEINDIA 2022 and MEGA ATV CHAMPIONSHIP 2022 held at Goa from 12th to 14th May 2022



INDUSTRIAL VISIT



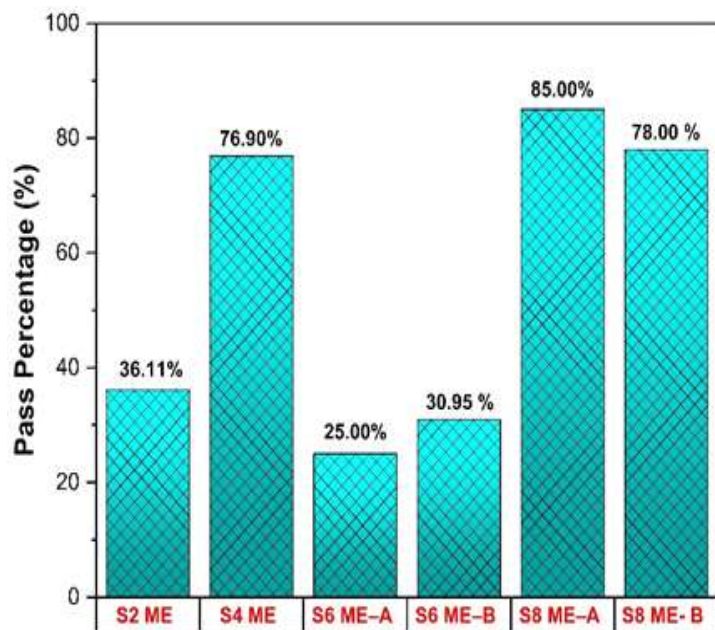
Mechanical S6 A and B Batch

Infynit 3D Pvt. Ltd., Centre for Incubation and Business Acceleration
Agnel Ashram Educational, Complex Agnelgav, Matol, Verna, Goa
403722



Mechanical S4 Batch

KSEB Sengulam Power Station, Adimali - Rajakad Rd, Vellathooval,
Kerala



Placement Details

SL NO	NAME	COMPANY
1	M HARISHANKAR	CAPGEMINI
2	S ABHINAV BASIL	CAPGEMINI
3	PRIYANA SUNNY K	GUIDEHOUSE, SUTHERLAND GLOBAL, NISSAN
4	SNOBIN MATHEW	L&T, GUIDEHOUSE
5	ABIL JUSTIN	INFOSYS
6	BASIL VARGHESE	INFOSYS, INDOSHELL
7	DON GEORGE ALEX	INFOSYS, TCS
8	JIBIN GEORGE	INFOSYS, TCS
9	HARIGOVIND	INFOSYS, TCS, NISSAN
10	ABHAY SANKAR P	SUTHERLAND GLOBAL (NV)
11	AJESH SHAH	SUTHERLAND GLOBAL (NV)
12	ALBY JOSE	SUTHERLAND GLOBAL (NV)
13	BASIL SAJEEVAN	SUTHERLAND GLOBAL (NV)
14	GEORGE MARTIN P	SUTHERLAND GLOBAL (NV)
15	GOKUL K VIJAYAN	SUTHERLAND GLOBAL (NV)
16	JOSEPH SALAS OLICKAMALAYIL	SUTHERLAND GLOBAL (NV)
17	KAILASNADH K J	SUTHERLAND GLOBAL (NV)
18	MUHAMED FARDEEN	SUTHERLAND GLOBAL (NV)
19	NIKHIL SANJOJ	SUTHERLAND GLOBAL (NV)
20	PAUL BABY	SUTHERLAND GLOBAL (NV)
21	VINU K VIJAYAN	SUTHERLAND GLOBAL (NV)
22	ATHUL P U	SUTHERLAND GLOBAL (NV), INDOSHELL
23	BASIL JOY PADICATTU	SUTHERLAND GLOBAL
24	JEEVAN SANTHOSH	SUTHERLAND GLOBAL
25	NIMITHA JOHNY	SUTHERLAND GLOBAL
26	VISHNU RAJU	SUTHERLAND GLOBAL
27	ALBIN ROY	TCS
28	ATHUL M NAIR	TCS
29	AUSTIN BABY	TCS
30	GEORGEY EMMANUEL BASTIAN	TCS
31	JUDSON JOSE	TCS
32	MATHEW C VAMATTAM	TCS
33	MATHEW GEORGE	TCS
34	FREDIN JOHNSON	TCS, INDOSHELL

INDUSTRIAL VISITS



ACADEMIC EXCELLENCE



S2 ME
Jayakrishna Biju



S4 ME
Saran Kurmar K S



S6 ME -A
Yadhu krishnan



S6 ME-B
Albin Tony



S8 ME-A
Snobin Mathew



S8 ME- B
Nayan Rajeev

MURALIKRISHNAN
MEMORIAL AWARD 2021-2022
(for the best outgoing student)



Mr. Harigovind S
S8 ME A

Rev. Fr. Joseph Puthenkulam
Memorial Endowment 2021-2022
(Topper of ME batch)



Mr. Snobin Mathew
S8 ME A

Editorial Board



Editorial Board: Mr. Unnikrishnan T G, Assistant Professor