

**RAMCO INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF MECHANICAL ENGINEERING**  
**ACADEMIC YEAR 2022-23**  
**ME8811-PROJECT WORK**

Sl.No.	Project Title	PO's Relevance	PSO's Relevance	Outcome
<b>Projects in Identified Researches</b>				
1.	Customized Tensile and Shear Testing Machine for Additively Manufactured Polymer based threaded Components.	1,2,3,5,8,9,10,11,12	1,2	<ul style="list-style-type: none"> <li>Dineshkumar G, Vijaythirupathi M and Dr. J. Jerold john Britto presented the paper “Mathematical Modelling and Finite Element Simulation of Shear Strength and Tensile strength Evaluation of Threaded Bolt Components” in International Conference on Contemporary Research Advancements in Mechanical Engineering (ICCRAME 2023) organized by Ramco Institute of Technology on 24<sup>th</sup> and 25<sup>th</sup> March 2023.</li> <li>Patent drafting for the product developed is in progress</li> </ul>
2.	Bioactive Functionalization and Investigation in Wire Cut Electric Discharge Machining(WEDM) of Titanium Alloy (Ti-6Al-4V) for Biomedical Applications	1,2,4,5,6,8,9,10,11,12	1,2	<ul style="list-style-type: none"> <li>Shiraj Gokul N, Manoj Kumar K and Mr. Kathiravan S, presented the paper “Study of Wire Electric Discharge Machining (WEDM) of Titanium Alloy (Ti-6Al-4V) for Medical Applications” in International Conference on Contemporary Research Advancements in Mechanical Engineering (ICCRAME 2023) organized by Ramco Institute of Technology on 24th and 25th March 2023.</li> <li>Shiraj Gokul N, Manoj Kumar K and Mr. Kathiravan S, presented the paper “Investigation in Wire Electric Discharge Machining (WEDM) of Titanium Alloy (Ti-6Al-4V) for Biomedical Applications” in International Conference on Digital Transformation in Manufacturing (ICDTM 2023) organized by SASTRA University from April 07 – 09.</li> </ul>
3.	Indoor Assist Wheelchair for Paralyse Person.	1,2,3,5,6,8,9,10,11,12	1,2	The work will be converted as a conference paper in the forthcoming academic year.

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4.	Non-Newtonian Fluid Bottle Filling Machine.	1,2,3,5,7,8,9,10,11,12	1,2,3	The project was completed in Consultation with Aravind Herbals Private Limited, Rajapalayam and the project was appreciated by the company and will be implemented in the processing . The Patent Drafting for the project is completed.
5.	Synergistic Effect of Niobium Pentoxide On Microstructural Properties of Aluminium Metal Matrix Composite.	1,2,4,5,6,8,9,10,11,12	1,2	Presented a paper on title “Synergistic Effect of Nb <sub>2</sub> O <sub>5</sub> on Aluminium Metal Matrix Composites” in one day National conference of Emerging Trends in Engineering and Technology “-NCETET 2023 organized by Department of Automobile Engineering at Dr. Mahalingam College of Engineering and Technology, Pollachi held on 13.05.2023.
6.	Experimental Investigations on Inconel 625 & SS316L Fabricated through WAAM with Different Orientations.	1,2,4,5,6,8,9,10,11,12	1,2	Arulkumar G, Maadesh M and Mr. Ramar M will be presenting the paper in 1 <sup>st</sup> International Conference on Advanced Materials ,Modern Manufacturing and Computerized Automation (IAMMCA 2023) organized by PSN College of Engineering and Technology on June 23 <sup>rd</sup> – 24 <sup>th</sup> 2023.
7.	Hot Corrosion Behaviour of Plasma Sprayed Cr <sub>3</sub> C <sub>2</sub> /8YSZ coated SS316 for boiler Applications	1,2,4,5,6,8,9,10,11,12	1,2	Dr. Maharajan S Published a paper on the Title “Hot Corrosion Evaluation of Cr <sub>3</sub> C <sub>2</sub> /8YSZ-Based Plasma-Sprayed Coatings on SS316 in Na <sub>2</sub> SO <sub>4</sub> -V <sub>2</sub> O <sub>5</sub> Molten Salt Environment at 700 °C in the Journal of Failure Analysis and Prevention.
8.	Performance Evaluation of Titanium & Aluminium Alloys via metal Additive process	1,2,4,5,6,8,9,10,11,12	1,2	Arunprasath T, Saravanakumar S and Dr. Lakshmanan S will be presenting the paper in 1 <sup>st</sup> International Conference on Advanced Materials ,Modern Manufacturing and Computerized Automation (IAMMCA 2023) organized by PSN College of Engineering and Technology on June 23 <sup>rd</sup> – 24 <sup>th</sup> 2023.
9.	Mechanical and Wear Properties of Hybrid Metal matrix Composites AA6061 – SiC – Graphite via Stir Casting Techniques.	1,2,4,5,6,8,9,10,11,12	1,2	The work will be converted as a conference or Journal paper in the forthcoming academic year.

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10.	Evaluation of mixed mode fracture toughness of Aluminium Metal Matrix Composite (AMMC)	1,2,3,4,5,6,8,9,10,11,12	1,2,4	Bharath M, Mr. Gururaj C and Dr. Rajakarunakaran S, presented the paper "Experimental Investigation of Mixed Mode Fracture Toughness of Pure Aluminium through a Special Fixture" in International Conference on Contemporary Research Advancements in Mechanical Engineering (ICCRAME 2023) organized by Ramco Institute of Technology on 24th and 25th March 2023.
<b>Projects in Specific Application</b>				
11.	Solid Waste Classification using Manipulator with Jetson Nano.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,4	Mr. Dinesh R, Mr. P R Vijay Jaganath and Mr. S. Valaiganesh presented the paper "Solid Waste Classification Using Manipulator with Jetson Nano" at National Conference on Innovations in Computing Technologies (NCICT '23) Organized by Anna University, Regional Campus, Coimbatore on 22.05.2023.
12.	Solid Waste Segregation using a serial Manipulator with Regression Analysis.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,4	Mr. Soumya Souvik Khuntia, Mr. Jehaveerapandiyam S and Mr. S. Valaiganesh presented the paper "Solid Waste Segregation Using a Serial Manipulator with Regression analysis" at National Conference on Innovations in Computing Technologies (NCICT '23) Organized by Anna University, Regional Campus, Coimbatore on 22.05.2023.
<b>Review/Experimental Studies in Emerging Mechanical Sciences</b>				
13.	Performance Study of Solar Still Integrated with IOT Enabled Data Acquisition System.	1,2,3,4,5,6,7,8,9,10,11,12	1,3,4	The project work will be published in a reputed journal in the forthcoming year.
14.	Influence of vacuum in Bed drying chamber of close loop heat pump dryer	1,2,3,4,6,7,8,9,10,11,12	1,3,4	The work will be converted as a conference or Journal paper in the forthcoming academic year.
15.	Performance Comparison of Solar Parabolic Trough Collector for Drying Tulasi Leaves with Open Sun Drying	1,2,3,4,6,7,8,9,10,11,12	1,3,4	The work will be converted as a conference or Journal paper in the forthcoming academic year.

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16.	Mechanical Parameters Study of Fabricated Commercial Crumb Rubber Sheet	1,2,4,5,6,7,8,9,10,11,12	2,4	<ul style="list-style-type: none"> <li>Mr. M. Athith and Mr. Ramkumar K presented a paper "Mechanical Parameters Study of Fabricated Commercial Crumb Rubber Sheet" in National Conference of Emerging Trends in Engineering and Technology (NCETET 2023) organised by Dr. Mahalingam College of Engineering and Technology, Pollachi on 13.05.2023.</li> <li>Mr. M. Athith and Mr. Ramkumar K presented a paper "Reducing Waste Tyre Generation Using Proper Recycling Approach" in the International Conference on Advances in Automobile, Manufacturing and Mechanical Engineering (ICAAMME – 2023) organised by Easwari Engineering College, Chennai on 28.04.2023.</li> </ul>
17.	Experimental Investigation of Coating on Cutting Tool Inserts Under PVD – Arc Evaporation technique	1,2,4,5,6,8,9,10,11,12	2,4	The work will be converted as a conference or Journal paper in the forthcoming academic year.
18.	Influence of Vacuum in Tray Drying Chamber of Close Loop Heat Pump Dryer.	1,2,3,4,6,7,8,9,10,11,12	1,3,4	The work will be converted as a conference or Journal paper in the forthcoming academic year.
<b>Solution to Industrial Problems based Projects</b>				
19.	Energy Conservation by using Solar Panel in Diesel Generator plant.	1,5,6,7,8,9,10,11,12	2,3	A paper was presented in International Conference on Emerging Technologies in Engineering and Science (ICETES – 2023) Organized by DVR & Dr. HS MIC College of Technology, Andhra Pradesh on 5.06.2023
20.	Design of Pulley for Industrial Lifting System to Lift Municipal Waste for the Calciner.	1,2,3,4,5,6,7,8,9,10,11,12	1,2,4	The work will be converted as a conference paper in the forthcoming academic year.
21.	5S extension in screw Industry.	1,5,8,9,10,11,12	2	A paper was presented in National Conference on Civil and Mechanical Engineering (NCCME - 23) Organised by National Conference in Chennai, on 10 <sup>th</sup> June, 2023.

