



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

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काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६०१५, तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

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DEPARTMENT OF MECHANICAL ENGINEERING

Student Major Projects Linked to SDGs

Academic Year: CAY (2024-25), CAYm1 (2023-24), CAYm2 (2022-23)

CAY 2024-25

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the Supervisor
1	B21ME004	Machine learning based mass distribution of spatial mechanism for reducing shaking forces and moments using Parallelepiped model	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Sri V. Rakesh (Dr.P.S.S Murthy)
	B21ME015			
	B21ME005			
2	B22ME131L	Design and fabrication of cooling channels in dies using additive manufacturing	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Sri. M. Anil Kumar
	B22ME124L			
	B21ME008			
3	B22ME128L	Fabrication and experiential characterization of aluminum foam: A casting-based approach	SGD7 Affordable and Clean Energy, SDG 9 Industry Innovation and Infrastructure	Dr. A. Hari Kumar
	B22ME127L			
	B21ME011			
4	B21ME010	Design and development of filament extruder maker	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Dr. A. Devaraju
	B21ME001			
	B21ME030			
5	B22ME125L	Optimization of natural fiber composite for automobile application	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Dr. J. Laxman
	B22ME121L			
	B21ME022			
6	B22ME126L	Evolution of properties of 3D printed natural fiber composite	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Dr. K. Raja Narendra Reddy
	B22ME123L			
	B21ME023			
7	B22ME122L	Bio carbon hybrid polymer composite for grade pad application	SGD7 Affordable and Clean Energy, SDG 9. Industry Innovation and Infrastructure	Sri Ch. Karunakar
	B21ME025			
8	B21ME003	Simulator evolution on solar collector performance with Nano fluids	SGD7 Affordable and Clean Energy, SDG 8. DECENT WORK AND ECONOMIC GROWTH, SDG 9. Industry Innovation and Infrastructure	Dr. G. Srinivasa Rao
	B21ME017			
	B22ME130L			

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the Supervisor
9	B21ME020	Structural analysis of dried and Non-dried filaments in 3D printer	SGD7 Affordable and Clean Energy, SDG 8. DECENT WORK AND ECONOMIC GROWTH, SDG 9. Industry Innovation and Infrastructure	Dr. G. Ganesh Kumar
	B21ME012			
	B21ME016			
10	B21ME032	Evaluation of the mechanical and Micro structural properties of the dry and underwater friction stir additive manufacturing of AA6082 aluminum alloy	SGD4 QUALITY EDUCATION, SDG 9. Industry Innovation and Infrastructure	Dr. MD. Sameer
	B21ME047			
	B22ME139L			
11	B21ME036	Evaluation of Mechanical properties of rice husk powder with Al ₂ O ₃	SGD4 QUALITY EDUCATION, SDG 9. Industry Innovation and Infrastructure	Dr. G. Srinu
	B21ME054			
	B21ME056			
	B21ME040			
12	B21ME042	CFD analysis of proton exchange member fuel cell at different operating parameters	SGD4 Quality Education, SDG 9. Industry Innovation and Infrastructure	Sri S. Anil Kumar
	B21ME051			
	B22ME138L			
	B21ME049			
13	B22ME140L	Fabrication and Analysis of Hybrid Composite using Natural Fibers	SGD4 Quality Education, SDG 9 Industry Innovation and Infrastructure	Dr. P. Prabhakara Rao
	B21ME052			
	B21ME041			
	B21ME053			
14	B21ME059	Machine Learning algorithm for prediction of ultimate tensile strength and flexural strength of fused deposition modelled ASA specimen	SGD4 Quality Education, SDG 9 Industry Innovation and Infrastructure	Dr. U. Shrinivas Balraj
	B21ME039			
	B21ME048			
	B21ME058			
15	B22ME134L	IoT Based Automatic Seed Sowing Machine	SGD4 Quality Education, SDG 8. Decent Work and Economic Growth, SDG9 Industry Innovation and Infrastructure	Sri K. Kishor Kumar
	B22ME132L			
	B20ME094			
16	B21ME031	Thermal Analysis of Heat Sink with Fins of different Configuration	SGD4 Quality Education, SDG 9. Industry Innovation and Infrastructure	Sri S. Ramesh
	B21ME037			
	B22ME136L			
17	B21ME044	Impact of Load variation on the Wear and Characteristics of Aluminum Alloy Reinforced with Agriculture Waste Particulates	SGD4 Quality Education, SDG 9. Industry Innovation and Infrastructure	Dr. S. Chandramouli
	B22ME141L			
	B21ME034			
	B22ME135L			
18	B21ME057	Design and development of IOT based prototype model for uniform loading of coal at coal India	SGD4 Quality Education, SDG 8. Decent Work and Economic Growth, SDG 9. Industry Innovation and Infrastructure	Dr. P. Srikanth
	B21ME038			
	B22ME137L			
19	B22ME133L	Numerical Investigation of thermal Performance of Lithium-	SGD4 Quality Education,	Dr. K. Sridhar
	B21ME033			

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the Supervisor
	B21ME055	ion battery with hybrid cooling systems	SDG 8. Decent Work and Economic Growth, SDG 9. Industry Innovation and Infrastructure	
	B22ME142L			
	B22ME142L			

CAYm1 2023-24

Batch. No.	Roll No.	Major Project Title	SDGs Addressed	Name of the Supervisor
1.	B20ME013	Portable & Smart Packaging system with quality check framework	SDG 8. Decent work and Economic Growth	Sri K. Kishor Kumar
	B20ME030			
	B20ME028			
	B20ME050			
2.	B20ME025	Performance evaluation of air breathing Proton Exchange Membrane fuel cell using CFD analysis	SDG 13. Climatic Action	1. Dr. G. Srinivasa Rao & 2. Dr. B. Srinivasa Reddy
	B20ME042			
	B20ME027			
	B20ME057			
3.	B20ME008	Design And Fabrication of a Smart Solar Tracking Attachable Wheelchair Auto Motor Controlled by Using Artificial Intelligence	SDG 8. Decent work and Economic Growth	1. Sri M. Anil Kumar & 2. Sri V. Rakesh
	B20ME033			
	B20ME054			
	B20ME012			
4.	B20ME003	Preparation and characterization of silica nanoparticles from sugarcane bagasse ash for using as a filler in natural rubber composites	SDG 8. Decent work and Economic Growth	1. Dr. P. Prabhakara Rao & 2. Sri P. Anil Kumar
	B21ME124L		SDG 11. Sustainable cities and communities	
	B20ME058			
	B21ME127L			
5.	B20ME035	Micro-channels for heat transfer and thermal management applications	SDG 8. Decent work and Economic Growth	Sri S. Ramesh
	B20ME055			
	B20ME037			
	B20ME044			
6.	B20ME001	Multi Objective Optimization of Machining Performance of 3D Printed Electrodes in Electric Discharge Machining of 17/4 PH steel	SDG 9. Industry Innovation and Infrastructure	Sri S. Chandramouli
	B20ME020		SDG 11. Sustainable cities and communities	
	B20ME010			
	B20ME022			
7.	B20ME047	Numerical and Experimental analysis of vertical axis wind turbine blades for different angles of attack using ANSYS Fluent	SDG 7. Affordable and Clean Energy	1. Dr. G. Ganesh Kumar & 2. Dr. T. Manoj Kumar
	B20ME052			
	B20ME026			
	B20ME005			
8.	B20ME045	Preparation & testing of particle reinforced polymer composites materials for different composite materials	SDG 8. Decent work and Economic Growth	1. Sri K. Kishor Kumar & 2. Sri S. Sripathy
	B20ME056		SDG 11. Sustainable cities and communities	
	B20ME040			
	B20ME011			
9.	B20ME038	Experimental Investigation of Mechanical Properties of Fiber Composite Material	SDG 8. Decent work and Economic Growth	Dr. J. Laxman
	B21ME122L		SDG 11. Sustainable cities and communities	
	B21ME128L			
	B20ME004			

Batch No.	Roll No.	Major Project Title	SDGs Addressed	Name of the Supervisor
10.	B20ME049	Preparation, characterization and investigation of mechanical properties of Epoxy-based composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr. G. Sai Kumar,
	B20ME053			
	B20ME034			
	B20ME036			
11.	B20ME015	EDM of advanced materials and optimization	SDG 13. Climatic Action	Dr. U. Shrinivas Balraj,
	B20ME006			
	B20ME019			
	B20ME021			
12.	B21ME121L	Thermal management analysis using heat pipe in the high current discharging of lithium-ion battery in electric vehicles	SDG 8. Decent work and Economic Growth	Sri S. Anil Kumar
	B20ME059			
	B20ME007			
	B20ME023			
13.	B20ME024	Characterization of functionally graded materials.	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri M. Anil Kumar
	B21ME123L			
	B20ME051			
	B21ME126L			
14.	B20ME016	Dynamic Mechanical Analysis of Natural Fibre Reinforced Composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	1. Dr. K. Raja Narender Reddy & 2. Sri V. Srikanth,
	B20ME017			
	B20ME002			
	B20ME018			
15.	B21ME138L	Additive manufacturing (FDM, Rapid Prototyping, SLM) and its optimization	SDG 9. Industry Innovation and Infrastructure SDG 11. Sustainable cities and communities	Dr. U. Shrinivas Balraj
	B20ME073			
	B21ME140L			
	B21ME135L			
16.	B20ME109	Development of bio-based polymer composite filaments for 3D printing	SDG 9. Industry Innovation and Infrastructure SDG 11. Sustainable cities and communities	Dr. MD. Sameer
	B20ME091			
	B21ME144L			
	B21ME131L			
17.	B20ME078	Micro EDM process parameter optimization on maraging steel	SDG 9. Industry Innovation and Infrastructure SDG 11. Sustainable cities and communities	Dr. P. Srikanth
	B20ME069			
	B21ME147L			
	B20ME076			
18.	B21ME141L	Micro-structural characterization of Raw and Hybrid Cellulose Reinforced composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri Ch. Karunakar Assistant
	B21ME146L			
	B20ME108			
	B21ME139L			
19.	B20ME080	A hybrid combining heat pipe with phase change material-based battery thermal management system	SDG 8. Decent work and Economic Growth	1. Dr. K. Sridhar & 2. Dr. E. Ramesh
	B21ME130L			
	B20ME081			
	B20ME115			
20.	B21ME142L	Artificial intelligence based mass distribution in a spatial mechanism	SDG 8. Decent work and Economic Growth	Dr. P.S.S. Murthy
	B20ME090			
	B20ME106			
	B21ME132L			
21.	B20ME119	Modeling and effective properties prediction of metal foams	SDG 8. Decent work and Economic Growth	Sri A. Hari Kumar
	B20ME118			
	B20ME070			

Batch No.	Roll No.	Major Project Title	SDGs Addressed	Name of the Supervisor
	B20ME113 B20ME066		SDG 11. Sustainable cities and communities	
22.	B20ME071 B21ME137L B20ME088 B20ME098	A comparative study on solar dryer using external reflector for drying fruits and vegetables	SDG 8. Decent work and Economic Growth	1. Sri S. Anil Kumar & 2. Sri V. Rajesh
23.	B19ME129 B20ME085 B20ME077 B21ME129L	Fatigue properties of chemically treated natural fiber -reinforced with guar gum composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr. K. Raja Narender Reddy
24.	B21ME133L B21ME136L B21ME145L B21ME134L	Evaluation of dielectric properties of basalt fiber reinforced composite	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	1. Dr. A. Devaraju & 2. Ms. P. Divya
25.	B20ME116 B20ME099 B20ME097 B20ME064	Studies on mechanical tribological properties and the behavior of developed nano composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	1. Sri A. Hari Kumar & 2. Smt. P. Anitha
26.	B20ME067 B20ME062 B20ME092 B20ME094	Experimental investigations of material removal rate on Al/SiC-fly-ash hybrid composites using electrical discharge machining	SDG 9. Industry Innovation and Infrastructure SDG 11. Sustainable cities and communities	Dr. G. Srinu
27.	B21ME143L B20ME101 B21ME149L B21ME148L	numerical and experimental free convection heat transfer analysis of sphere embedded in porous medium	SDG 8. Decent work and Economic Growth	Dr. G. Srinivasa Rao

CAY m2 2022-23

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the supervisor
1.	B19ME031 B20ME181L B19ME039 B19ME033	Polymer Composite Material preparation and testing	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri. S. Sripathy
2.	B19ME059 B19ME007 B19ME060 B19ME044	Heat Transfer Enhancement using Nanofluids	SDG 8. Decent work and Economic Growth	Sri S. Ramesh
3.	B19ME018 B19ME005 B19ME043 B19ME012	Smart Techniques for Crop Protection & Management	SDG 8. Decent work and Economic Growth	Sri.K.Kishor kumar
4.	B19ME052 B19ME049 B19ME051 B19ME057	Performance evaluation of Inclined type Solar Drier for drying of fruits and vegetables	SDG 13. Climatic Action	Sri V. Rajesh

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the supervisor
5.	B19ME003	Tribological behavior of Biodegradable composites materials	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr.M.Om Prakash
	B19ME009			
	B19ME011			
	B19ME008			
6.	B19ME034	Micro structural and Tribological Behavior of Thermal Spray High Entropy Alloy Coatings	SDG 9. Industry Innovation and Infrastructure	Dr. MD. Sameer
	B19ME055			
	B19ME045			
	B19ME025			
7.	B19ME010	Hierarchical parallel processing of shaking effects in a spatial mechanism	SDG 8. Decent work and Economic Growth	Dr. P.S.S. Murthy
	B19ME027			
	B19ME050			
	B19ME017			
8.	B19ME014	Manufacturing System Design for Producing Metallic Foam	SDG 9. Industry Innovation and Infrastructure	Sri A.Hari Kumar
	B19ME013			
	B19ME029			
	B19ME016			
9.	B19ME028	Evaluation of a plastic liquid canister by using Non-Destructive testing -Ultrasonic testing method	SDG 8. Decent work and Economic Growth	Sri B. Ravi Kumar
	B19ME020			
	B19ME030			
	B20ME185L			
10.	B19ME041	Evaluation of machining performance and sustainability characteristics in vegetable oil based MQL Machining	SDG 9. Industry Innovation and Infrastructure	Dr. G. Srinu
	B20ME184L			
	B20ME183L			
	B19ME038			
11.	B19ME047	Experimental investigation and optimization of wear characteristics of aluminum metal matrix composites	SDG 9. Industry Innovation and Infrastructure SDG 11. Sustainable cities and communities	Dr. S. Chandramouli
	B20ME182L			
	B19ME058			
	B19ME036			
12.	B19ME004	Experimental Analysis of Thermo-Electric-Generator used in IC Engine	SDG 8. Decent work and Economic Growth	Dr. G. Ganesh Kumar
	B19ME006			
	B19ME001			
	B19ME024			
13.	B19ME019	EDM machining of advanced materials and it's optimization	SDG 8. Decent work and Economic Growth	Dr. U. Shrinivas Balraj
	B19ME022			
	B19ME026			
	B19ME023			
14.	B19ME046	Tribological properties of Al alloy surface composites by Friction stir processing	SDG 8. Decent work and Economic Growth	Dr. A. Deva Raju
	B19ME040			
	B19ME002			
	B19ME015			
15.	B19ME074	Design And Fabrication Of Solar Attachable Wheel Chair Automator	SDG 8. Decent work and Economic Growth	Sri V.Rakesh
	B19ME068			
	B19ME075			
	B19ME108			
16.	B19ME063	Multi Objective Optimization of Process Parameters in EDM using Genetic Algorithm (GA)	SDG 8. Decent work and Economic Growth	Dr. K. Eswaraiah
	B19ME113			
	B19ME061			
	B19ME082			

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the supervisor
17.	B19ME105	Design and development of an autonomous agricultural drone for sowing seeds	SDG 8. Decent work and Economic Growth SDG 12. Responsible Consumption and Production	Sri M.Anil Kumar
	B19ME076			
	B19ME098			
	B19ME069			
18.	B19ME078	Effect of design modifications of a flow channel on the performance of proton exchange membrane fuel cell	SDG 8. Decent work and Economic Growth	Dr. B. Srinivasa Reddy
	B19ME101			
	B19ME077			
	B20ME190L			
19.	B19ME064	CFD Analysis of External Flow Vortex Shedding for flow over a Ribbed and Grooved Cylinder	SDG 8. Decent work and Economic Growth	Dr. T. Manoj Kumar
	B19ME070			
	B20ME186L			
	B19ME112			
20.	B19ME104	Designing a clean and efficient air conditioner with Artificial intelligence intervention to optimize energy and exergy interplay	SDG 8. Decent work and Economic Growth SDG 9. Industry Innovation and Infrastructure	Dr. K. Sridhar
	B19ME071			
	B19ME103			
	B19ME062			
21.	B19ME102	Experimental study on Mechanical properties of Metal matrix composite materials	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr.J.Laxman
	B19ME106			
	B19ME100			
	B19ME086			
22.	B19ME072	Mechanical And Morphological Studies Of Hybrid (Jute-Sisal) Cellulose Reinforced Composite	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri Ch. Karunakar
	B19ME118			
	B19ME090			
	B19ME109			
23.	B19ME084	Cold Spray coating on polymer composites	SDG 8. Decent work and Economic Growth	Dr.P.Prabhakar Rao
	B20ME187I			
	B20ME188I			
	B20ME191I			
24.	B19ME094	Hierarchical parallel processing of mass distribution parameters in a spatial mechanism	SDG 8. Decent work and Economic Growth	Dr. P.S.S. Murthy
	B19ME093			
	B19ME107			
	B19ME091			
25.	B19ME116	Heat transfer and Fluid flow analysis of solar air heater	SDG 8. Decent work and Economic Growth	Sri.S.Anil Kumar
	B19ME096			
	B20ME193L			
	B20ME192L			
26.	B19ME073	Thermal Analysis Of Solar Flat Plate Collector With Effect Of The Electromagnetic Field And Nanofluid Concentration Under Natural Convection In Solar Absorber tube	SDG 8. Decent work and Economic Growth	Dr. G. Srinivasa Rao
	B19ME119			
	B19ME115			
	B19ME095			
27.	B19ME065	Experimental Investigation on microstructure and mechanical properties of metal matrix composite material	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr. J. Laxman Assistant
	B19ME088			
	B19ME087			
	B20ME189L			

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the supervisor
28.	B19ME085	Study on mechanical property and characterization of randomly oriented water hyacinth (Eichhornia crassipes) fiber as reinforcement with Guar gum matrix material	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr. K. Raja Narender Reddy
	B19ME092			
	B19ME089			
	B19ME079			
29.	B19ME179	Evaluation of the properties of hybrid fibers-composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Ms. P. Divya
	B20ME204L			
	B19ME138			
	B20ME212L			
30.	B20ME200L	FEA and structural analysis on Aircraft wing by using ANSYS and CFD	SDG 8. Decent work and Economic Growth	Sri.P.Anil kumar
	B20ME201L			
	B20ME211L			
	B20ME210L			
31.	B20ME205L	Flow and conjugate heat transfer in mini/micro-channels	SDG 8. Decent work and Economic Growth	Dr.E.Ramesh
	B20ME197L			
	B19ME164			
	B19ME158			
32.	B20ME194L	Optimization of EDM process parameters on hardened steels	SDG 8. Decent work and Economic Growth	Dr.P.Srikanth
	B20ME198L			
	B20ME207L			
	B19ME157			
33.	B19ME154	CFD based performance analysis of solar air heater	SDG 8. Decent work and Economic Growth	Sri.S.Anil Kumar
	B19ME163			
	B19ME124			
	B19ME165			
34.	B19ME155	Thermal Properties Of Natural Fiber Reinforced With Natural Resin Composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri.V.Srikanth
	B19ME152			
	B19ME122			
	B19ME130			
	B19ME205L			
35.	B19ME169	Natural Convection Around A Heated Cylinder In A Saturated Bio Porous Medium With And Without Internal Heat Generation	SDG 8. Decent work and Economic Growth	Dr.G.Srinivasa Rao
	B19ME171			
	B19ME176			
	B19ME175			
36.	B19ME147	Some studies of Characterization by Solid state welding of dissimilar metals	SDG 8. Decent work and Economic Growth	Sri.P.Sreedhar
	B19ME145			
	B19ME123			
	B19ME143			
37.	B19ME126	Experimental Study on Properties of a Magnet used in Left Ventricular Assisted Devices.	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Dr. G.Ganesh Kumar
	B19ME134			
	B19ME151			
	B19ME150			
38.	B20ME196L	Characteristics of Flow and Heat Transfer in Ducts with Continuous and Broken V-shaped Ribs	SDG 8. Decent work and Economic Growth	Dr.E.Ramesh
	B19ME173			
	B19ME144			
	B20ME202L			

Batch No.	Roll Number	Major Project Title	SDGs Addressed	Name of the supervisor
39.	B19ME172	Investigation of the dielectric properties of hybrid natural fibre and conductive filler reinforced polymer composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri.K.Kishor kumar
	B19ME131			
	B19ME166			
	B19ME133			
40.	B20ME209L	Investigation of microstructure and mechanical properties of aluminum metal matrix composite by friction stir processing	SDG 8. Decent work and Economic Growth	Sri V. Pradeep
	B20ME195L			
	B19ME141			
	B19ME161			
41.	B20ME206L	Experimental optimization of dry sliding wear behavior of metal matrix composites	SDG 8. Decent work and Economic Growth	Smt.P.Anitha
	B19ME127			
	B19ME136			
	B20ME208L			
42.	B20ME199L	Characterization of jute short fiber reinforced composites	SDG 8. Decent work and Economic Growth SDG 11. Sustainable cities and communities	Sri.D.Sammaiah
	B20ME203L			
	B19ME137			
	B19ME159			