



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

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కాకతీయ ప్రौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६०१५, तेलंगाना, भारत

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

(An Autonomous Institute under Kakatiya University, Warangal)

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DEPARTMENT OF MECHANICAL ENGINEERING

Student Mini Projects Linked to SDGs

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

CAY 2024-25

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
1.	B23ME078L	Numerical simulation of transient temperature and residual stresses in FSAM of AA5086 aluminium alloy.	SDG9: Industry, Innovation, and Infrastructure	Dr.MD.Sameer
	B23ME076L			
	B22ME025			
	B22ME023			
2.	B22ME001	Machine learning assisted pattern recognition algorithm for estimating flexural strength in fused deposition modelled Acrylonitrile Styrene Acrylate specimens	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Dr. U. Shrinivas Balraj
	B22ME017			
	B22ME011			
	B22ME013			
3.	B22ME004	Optimization of EDM process parameters using AI/ML	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Dr.J.Laxman Dr G.Srinivasa rao
	B22ME008			
	B22ME010			
	B22ME005			
4.	B22ME003	Thermal Management for Electronics	SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Sri. S. Ramesh Sri.S. Anil Kumar
	B22ME024			
	B23ME073L			
	B21ME028			
5.	B23ME080L	Parametric Studies on Fins used in Lithium-Ion Batteries for Electric Vehicles	SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr K.Sridhar Dr G.Ganesh Kumar
	B23ME070L			
	B23ME077L			
6.	B22ME009	Fabrication of bio degradable scaffolds for bone tissue growth using 3d printing	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. A Devaraj Dr.P Srikanth
	B22ME014			
	B22ME016			
	B22ME079L			

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
7.	B23ME074L	Evaluation of mechanical properties of aluminium based composites using rice husk	SDG9: Industry, Innovation, and Infrastructure SDG 13: Climate Action	Dr. G.srinu
	B23ME066L			
	B23ME071L			
	B23ME065L			
8.	B22ME015	Design For Additive Manufacturing Topology Optimization	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Sri M.Anil Kumar
	B22ME021			
	B22ME022			
	B22ME027			
9.	B23ME067L	Feasiability study of low-cost materials for carbon capture:a comparative analysis	SDG 13: Climate Action	Sri.K.Kishor Kumar
	B23ME069L			
	B22ME028			
	B21ME046			
10.	B23ME081L	Evaluation of Tensile PROPERTIES OF Ti8DV ALLOY	SDG9: Industry, Innovation, and Infrastructure	Dr.k.Raja Narender Reddy Sri.A.Hari Kumar
	B23ME075L			
	B23ME064L			
	B22ME019			
11.	B23ME061L	Unconventional Manufacturing Techniques for Composites	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr.P.Prabhakara Rao Dr.S.Chandramouli
	B23ME063L			
	B23ME082L			
	B21ME043			
12.	B23ME068L	Tribological properties of biocarbon hybrid polymer composites	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Sri Ch.Karunakar
	B23ME072L			
	B23ME062L			
	B22ME006			

CAYm1 2023-24

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
1	B21ME004	Fabrication of journal bearing apparatus	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. P.S.S. Murthy
	B21ME015			
	B21ME005			
	B21ME028			
2	B22ME131L	Topology Optimization of additively manufactured parts	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Sri M. Anil Kumar
	B22ME124L			
	B22ME126L			
	B21ME008			
3	B22ME128L	Numerical Analysis of Metal foams: Prediction	SDG 12: Responsible Consumption and	Sri A. Hari Kumar
	B22ME127L			

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
	B21ME011	of static behavior	Production	
	B21ME021			
4	B21ME010	Design and fabrication of portable filament maker for 3D printing application	SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. A. Devaraju
	B21ME001			
	B21ME002			
	B21ME030			
5	B22ME125L	Characterization and Optimization of Mechanical Performance of Natural Fiber Composites for Automobile Applications	SDG 11: Sustainable Cities and Communities	Dr. J. Laxman
	B22ME121L			
	B21ME009			
	B21ME022			
6	B22ME126L	Enhancing properties of Natural fiber composites through Natural Fillers: A path towards sustainable materials	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. K. Raja Narender Reddy
	B22ME123L			
	B21ME023			
7	B22ME122L	Thermogravimetric analysis of cellulosic reinforced natural composites	SDG9: Industry, Innovation, and Infrastructure SDG 13: Climate Action	Sri Ch. Karunakar
	B21ME025			
	B21ME029			
	B21ME019			
8	B21ME003	Evaluative Simulation of Solar Collector Performance	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. G. Srinivasa Rao
	B21ME017			
	B22ME130L			
9	B21ME020	Comparative analysis of 3D Printing filament by drying and Non drying	SDG 13: Climate Action	Dr. G. Ganesh Kumar
	B21ME012			
	B21ME016			
	B20ME029			
10	B21ME032	Microstructures and properties of high-entropy alloys.	SDG 11: Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient, and sustainable	Dr. MD. Sameer
	B21ME047			
	B22ME139L			
	B21ME045			
11	B21ME036	Mechanical properties evaluation sustainable porous bricks using rice husk	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. G. Srinu
	B21ME054			
	B21ME056			
	B21ME040			
12	B21ME042	Study of Fuel Cell	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Sri S. Anil Kumar
	B21ME051			
	B22ME138L			
	B21ME049			
13	B22ME140L	Fabrication of a Hybrid	SDG8: Decent Work and	Dr. P. Prabhakara

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
	B21ME052	Fibre and Multi Reinforcement Epoxy Composite for High Impact Strength	Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Rao
	B21ME041			
	B21ME053			
14	B21ME059	SUSTAINABILITY in manufacturing	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure	Dr. U. Shrinivas Balraj
	B21ME039			
	B21ME048			
	B21ME058			
15	B22ME134L	Review on Centralized Monitoring System for Street Light Fault Detection and Location Tracking	SDG 12: Responsible Consumption and Production	Sri K. Kishor Kumar
	B22ME132L			
	B21ME050			
16	B21ME031	Microchannel Heat Sink	SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Sri S. Ramesh
	B21ME037			
	B22ME136L			
	B21ME035			
17	B21ME044	Characterization and Wear Behavior of Aluminum metal matrix composites Reinforced with Agricultural Wastes Particulates	SDG 11: Sustainable Cities and Communities	Dr. S. Chandramouli
	B22ME141L			
	B21ME034			
	B22ME135L			
18	B21ME057	Review on available systems to prevent underloading /overloading of railway wagons	SDG8: Decent Work and Economic Growth SDG9: Industry, Innovation, and Infrastructure SDG 12: Responsible Consumption and Production	Dr. P. Srikanth
	B21ME038			
	B22ME137L			
19	B22ME133L	Exergy analysis of a thermal power plant	SDG9: Industry, Innovation, and Infrastructure SDG 13: Climate Action	Dr. K. Sridhar
	B21ME033			
	B21ME055			
	B22ME142L			

CAYm2 2022-23

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
1	B20ME062	Dual side shaper machine using scotch yoke mechanism	SDG8: Decent Work and Economic Growth	Dr. K. Eswaraiah
2	B20ME064	Design and fabrication of portable profile projector	SDG8: Decent Work and Economic Growth	Dr. P. Srikanth
3	B20ME066	CFD analysis of Centrifugal Pump	SDG8: Decent Work and Economic Growth	Dr. G. Ganesh Kumar
4	B20ME067	Design and analysis of scramjet engine at variable mach numbers	SDG8: Decent Work and Economic Growth	Dr. A. Deva Raj
5	B20ME069	Design and analysis of scramjet engine at variable mach numbers	SDG8: Decent Work and Economic Growth	Dr. A. Deva Raj

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
6	B20ME070	Fabrication and investigation of mechanical properties of basalt fibre	SDG8: Decent Work and Economic Growth	Dr. J. Laxman
7	B20ME071	CFD analysis at varied liquid flows through orifice meter and venturi meter	SDG8: Decent Work and Economic Growth	Dr. J. Laxman
8	B20ME073	Motion based automatic door open	SDG8: Decent Work and Economic Growth	Dr. G. Srinivasa Rao
9	B20ME076	Multitool operations using geneva mechanism	SDG8: Decent Work and Economic Growth	Dr. P. Srikanth
10	B20ME077	Design and fabrication of portable profile projector	SDG8: Decent Work and Economic Growth	Dr. P. Srikanth
11	B20ME078	Multitool operations using geneva mechanism	SDG8: Decent Work and Economic Growth	Dr. P. Srikanth
12	B20ME080	Adaptive headlights in automobiles	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
13	B20ME081	Adaptive headlights in automobiles	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
14	B20ME085	CO2 laser cutting of glass fiber reinforced unsaturated polyester	SDG8: Decent Work and Economic Growth	Dr. MD. Sameer
15	B20ME088	360 degrees rotating vehicle	SDG8: Decent Work and Economic Growth	Dr. G. Srinu
16	B20ME090	360 degrees rotating vehicle	SDG8: Decent Work and Economic Growth	Dr. G. Srinu
17	B20ME091	Improving the quality of moulding sand by different binders/additives	SDG8: Decent Work and Economic Growth	Sri S. Sripathy
18	B20ME092	Hydraulic powered bionic arm	SDG8: Decent Work and Economic Growth	Sri S. Sripathy
19	B20ME094	Extraction of fibre composites	SDG8: Decent Work and Economic Growth	Sri V. Srikanth
20	B20ME097	Fabrication of smart helmet for safe driving	SDG8: Decent Work and Economic Growth	Sri D. Sammaiah
21	B20ME098	Fabrication of smart helmet for safe driving	SDG8: Decent Work and Economic Growth	Sri D. Sammaiah
22	B20ME099	Investigating the mechanical properties of kenaf natural fiber reinforced composite polymer	SDG8: Decent Work and Economic Growth	Sri D. Sammaiah
23	B20ME101	Preparation of mould for investment casting to fabricate metal foam	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
24	B20ME106	Fabrication of solar power bank	SDG8: Decent Work and Economic Growth	Sri V. Rajesh
25	B20ME108	Fabrication of solar power bank	SDG8: Decent Work and Economic Growth	Sri V. Rajesh
26	B20ME109	Design and analysis of agricultural drone	SDG8: Decent Work and Economic Growth	Sri V. Pradeep
27	B20ME113	Cooling the future: Designing a solar powered air cooler	SDG8: Decent Work and Economic Growth	Dr. G. Ganesh Kumar
28	B20ME115	CFD analysis at varied liquid flows through orifice meter and venturi meter	SDG8: Decent Work and Economic Growth	Dr. J. Laxman
29	B20ME116	Fabrication and investigation of mechanical properties of basalt fibre	SDG8: Decent Work and Economic Growth	Dr. J. Laxman

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
30	B20ME118	Tribological behaviour of biodegradable composite materials	SDG8: Decent Work and Economic Growth	Sri K.Kishor kumar
31	B20ME119	Design and analysis of composite monocoque chassis for formula student car	SDG8: Decent Work and Economic Growth	Sri K.Kishor kumar
32	B21ME129L	Hydraulic powered bionic arm	SDG8: Decent Work and Economic Growth	Sri S. Sripathy
33	B21ME130L	Improving the quality of moulding sand by different binders/additives	SDG8: Decent Work and Economic Growth	Sri S. Sripathy
34	B21ME131L	Experimental fabrication of natural fibres reinforced with gaur gum composites	SDG8: Decent Work and Economic Growth	Sri V. Srikanth
35	B21ME132L	Experimental fabrication of natural fibres reinforced with gaur gum composites	SDG8: Decent Work and Economic Growth	Sri V. Srikanth
36	B21ME133L	Ultrasonic sensor based blind stick	SDG8: Decent Work and Economic Growth	Sri V. Srikanth
37	B21ME134L	Design and analysis of front and rear wing for a formula student car	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
38	B21ME135L	Preparation of mould for investment casting to fabricate metal foam	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
39	B21ME136L	Design and analysis of front and rear wing for a formula student car	SDG8: Decent Work and Economic Growth	Sri A. Hari Kumar
40	B21ME137L	Development of robotic arm utilising microcontroller and wireless communication	SDG8: Decent Work and Economic Growth	Sri V. Rajesh
41	B21ME138L	Automatic water level controller	SDG8: Decent Work and Economic Growth	Sri V. Rajesh
42	B21ME139L	CO2 laser cutting of glass fiber reinforced unsaturated polyester	SDG8: Decent Work and Economic Growth	Dr. MD. Sameer
43	B21ME140L	Experimental analysis of FDM modelling by varying parameters	SDG8: Decent Work and Economic Growth	Dr. MD. Sameer
44	B21ME141L	Experimental fabrication of natural fibres reinforced with gaur gum composites	SDG8: Decent Work and Economic Growth	Sri V. Srikanth
45	B21ME142L	Fabrication and investigation of tensile behaviour of banana fiber and okra fiber reinforced epoxy resin hybrid composite	SDG8: Decent Work and Economic Growth	Dr. G. Srinivasa Rao
46	B21ME143L	Fabrication and investigation of tensile behaviour of banana fiber and okra fiber reinforced epoxy resin hybrid composite	SDG8: Decent Work and Economic Growth	Dr. G. Srinivasa Rao
47	B21ME144L	Design and analysis of composite monocoque chassis for formula student car	SDG8: Decent Work and Economic Growth	Sri K.Kishor kumar
49	B21ME146L	Design and analysis of agricultural drone	SDG8: Decent Work and Economic Growth	Sri V. Pradeep
50	B21ME147L	Microstructure and wear characteristics of Al metal matrix	SDG8: Decent Work and Economic Growth	Sri V. Pradeep
51	B21ME148L	Microstructure and wear characteristics of Al metal matrix	SDG8: Decent Work and Economic Growth	Sri V. Pradeep

Batch No.	Roll No.	Mini Project Title	SDGs Addressed	Name of the Supervisor
52	B21ME149L	Investigating the mechanical properties of kenaf natural fiber reinforced composite polymer	SDG8: Decent Work and Economic Growth	Sri D. Sammaiah
53	B19ME129	Fabrication of Bio-Material for bone tissue engineering applications	SDG8: Decent Work and Economic Growth	Dr. A. Deva Raj