ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

Permanently Affiliated to JNTUK, Kakinada, Approved by AICTE, New Delhi
Recognized by UGC Under Section (2f) and 12(B) of UGC Act 1956
Aditya Nagar, ADB Road, Surampalem,533437

Department of Mechanical Engineering

Project Title:	DESIGN & FABRICATION OF ALL – TERRAIN VEHICLE	
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	19P35A0333	LOHIT
	19P35A0322	SIVA KRISHNA
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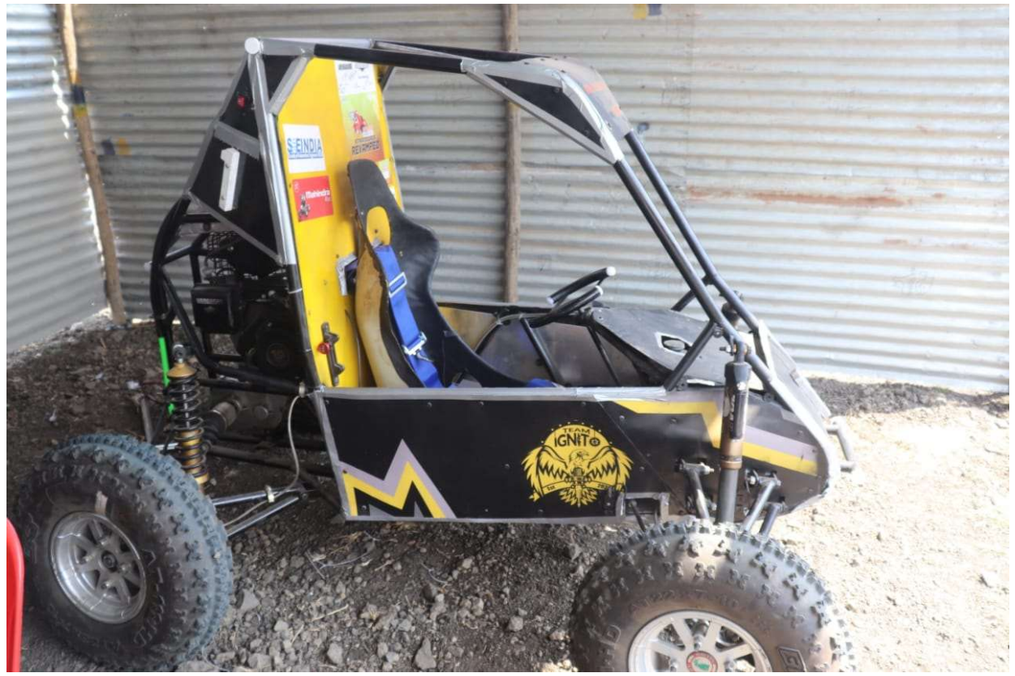
	19P35A0262	SRI RAM
	19P35A0393	SHANKAR SAI RAM

PO1: Engineering Knowledge	**PO5:** Modern Tool usage	**PO9:** Individual & Team Work
PO2: Problem Analysis	**PO6:** Engineer & Society	**PO10:** Communication Skills
PO3: Design & Development of solutions	**PO7:** Environment & Sustainability	**PO11:** Project Management & Finance
PO4: Investigations on complex problems	**PO8:** Ethics	**PO12:** Life Long Learning
PSO1: Mechanical Engineers must be able to analyze, design and evaluate mechanical components and systems using cutting-edge software tools as required by the industries from time to time.	**PSO2:** The ability to work in manufacturing and other sectors' operations and maintenance plants	**PSO3:** As part of a team or individually, plan and manage activities in micro, small, medium and large enterprises

Abstract	PO's Mapping	PSO's Mapping
This paper aims at studying the standard vehicle system and modifying it according to the constraints provided by the Rule book of BAJA SAEINDIA 2022 and to be used as All-Terrain Vehicle (ATV). It includes selection and development customized components for ATV for fine performance and greater safety of driver in endurance race. The team's primary objective is to design a safe and functional vehicle based on a rigid and torsion-free roll cage and chassis, well mounted power train, and dynamically tested steering and suspension systems. The secondary objective was to enhance performance and manoeuvrability of the vehicle. The team was divided into 5 major sub-systems, Design and Analysis, Steering, Braking, Suspension, Transmission	PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO9, PO10, PO11, PO12	PSO1, PSO2, PSO3

Relevance to PO's and PSO's

PO1	Applied the subject knowledge in calculation for design and systems
PO2	Studied and analysed existing designs of ATV's
PO3	Structure of the frame is designed under simulation.
PO4	In the Calculation part of frame, different materials are taken into the consideration.
PO5	Solid works and Ansys workbench tools are used for design and simulation.
PO6	Design and development of ATV's
PO8	Design specifications are followed with ethics
PO9	Fabrication of the vehicle is done by the team collaboration
PO10	Developed the communication with subsystems
PO11	Business plan contains the work flow and cost control
PO12	It's a part of long learning process for designing
PSO1	Design and development of complete vehicle is tested by running in IPG car maker
PSO2	Maintenance of the engine and the sub systems done.
PSO3	Entreprenerd skills attained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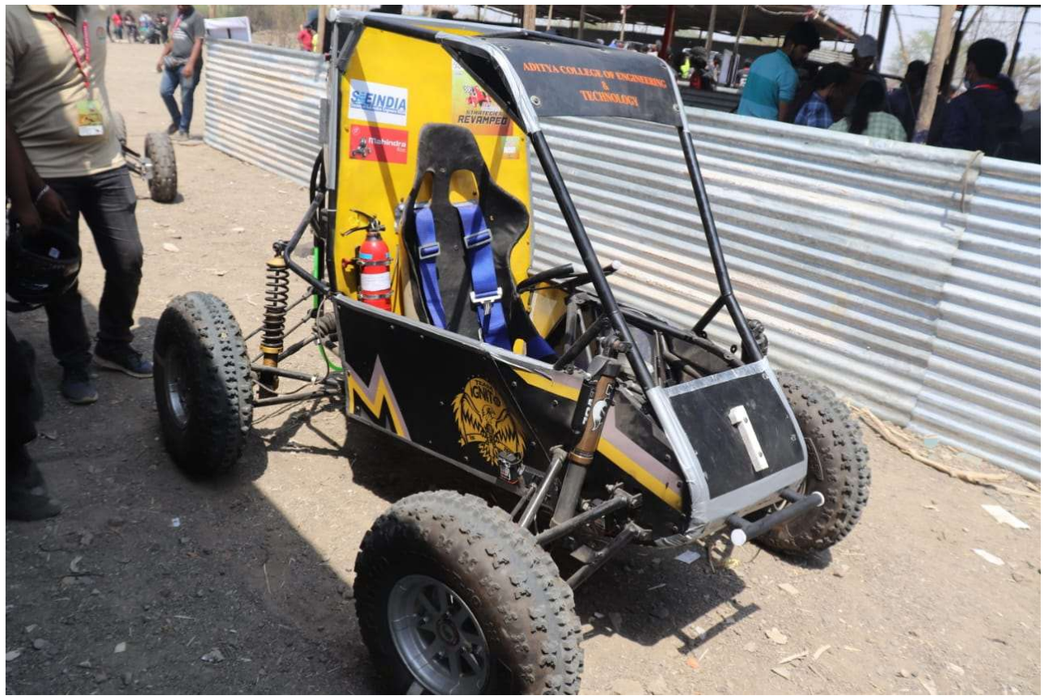
TEAM IGNITO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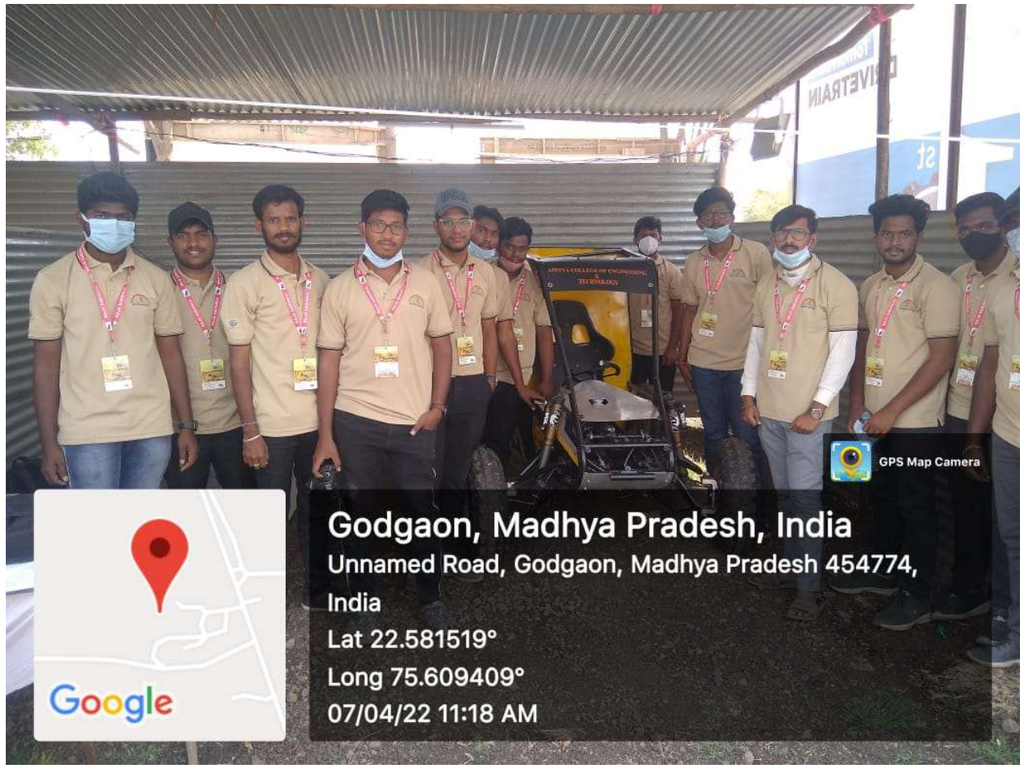
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