

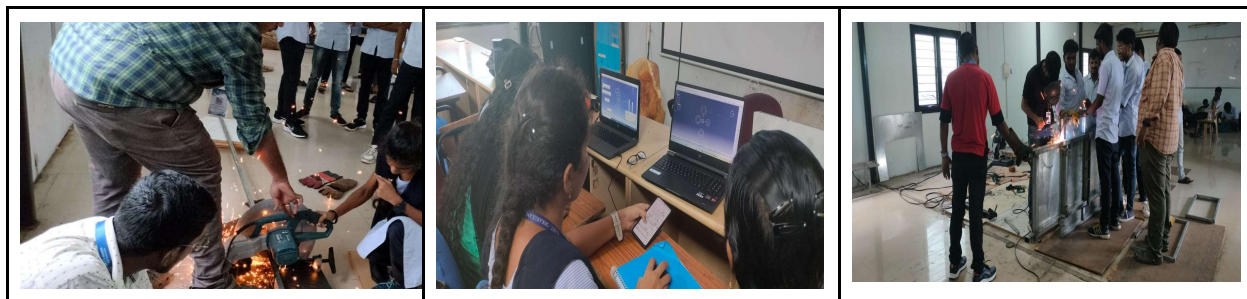
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## **PRESS NOTE**

### **Electric Vehicle Manufacturing and Designing Workshop**

In a whirlwind of creativity and engineering brilliance, **RGUKT Srikakulam & Nuzvid** joined forces with **Skyy Rider Institution** to orchestrate a 30-day Electric Vehicle (EV) workshop. A resounding success as 154 students across Mechanical, Electrical, and Electronic engineering disciplines united to bring to life a fully functional **ELECTRIC GOLF CART**. This remarkable achievement showcases the boundless potential of collaboration and education.

Guided by experts, students embarked on an enlightening journey through the intricacies of design in CATIA, cultivating a strong foundation for the project success. Students embraced the essential concepts of bridging theory and practice to lay the groundwork for the golf cart's realization. The workshop kicked off with the design of the chassis in Sketch Mode, showcasing the fusion of creativity and engineering precision. Applying cross-sectional materials to the chassis underscored the importance of harmonizing structural integrity with design aesthetics. The workshop's dynamic curriculum introduced surface modeling as students designed the elegant front visor, exemplifying form's harmony with function. Delving into sheet metal modeling, students crafted the chassis, structural body, and even the roof, epitomizing the balance between engineering and aesthetics. Designing the differential and front axle showcased the meticulous craftsmanship required for a flawless drivetrain. The vehicle's roof took shape through sheet metal and surface modeling, seamlessly blending protection with dynamic design.



No detail was too small as students designed seats, battery compartments, lights, and motor housing, each piece contributing to the cart's functionality and allure. The intricacies of the steering assembly and joints were meticulously addressed,

emphasizing precision in critical components. Designing the braking system and wire harnessing highlighted the interplay of components that drive the vehicle's safety and functionality. The grand finale brought together all parts in a harmonious assembly, a culmination of dedicated effort and learning.



The workshop also dived into EV technology's history, types, and market conditions, shedding light on its potential impact. From AC to DC motors, students explored the world of electric propulsion systems, laying the foundation for modern transportation. Students mastered the intricacies of controllers, buck converters, Battery Management Systems (BMS), and EV charging systems. The workshop touched upon Hybrid Electric Vehicles (HEVs) and fuel cell EVs, exploring the diverse landscape of sustainable transportation.



The workshop delved into manufacturing basics, from safety tools to molding technology, equipping students with hands-on skills. Students explored materials, cutting, bending, and finishing operations, molding concepts into tangible outcomes. The golf cart's physical realization began with meticulous material cutting, welding, polishing, and painting of the chassis. Glass fiber parts were meticulously molded and assembled into the vehicle's body, merging functionality with aesthetics. The assembly process saw the integration of various components, from differential to steering, culminating in a seamless vehicle structure.

## Valedictory Ceremony:-



## Student Voices:

Sk.Hasmath:

Practical workshop offers me an opportunity to apply theoretical knowledge in a real-world context. I go to work with actual components, tools, and technologies, helping them apprise the gap between theory and practice. Electric vehicles are becoming increasingly important in the transportation sector. Participating in a workshop exposes the fundamental concepts of EVs, from their history and types to the working principles of motors, controllers, batteries, and charging systems. I gain a deeper knowledge of different types of electric motors and controllers used in EVs. I personally learn how these components work together to ensure efficient propulsion and control of the vehicle. BMS is a critical component in electric vehicles that monitors and manages battery health and performance. This Workshop provide practical insights into the design, functionality, and importance of BMS.

Durga Prasad:

Electric vehicles are at the forefront of automotive innovation. I gain insights into designing and integrating chassis components. This includes understanding load distribution, structural integrity, and the considerations that go into designing a chassis for an electric vehicle. Workshop often cover the fundamentals of vehicle dynamics. Mechanical students can learn how various components interact to ensure optimal handling, stability, and performance of the electric vehicle. Electric vehicles have unique characteristics that impact suspension and steering design.

R.Uday Kumar:

EVs require effective Thermal management to maintain battery performance and prolong lifespan. I personally get insights into how cooling and heating systems are designed and integrated. As weight reduction and efficiency are key in EVs. I learn about selecting materials for lightweight yet strong vehicle structures.

B.Venu Gopal:

As an Electronic and communication engineering student, I engage with electronic components, communication systems, and technologies integral to EVs. EVs heavily rely on electronic systems for propulsion, control, and communication. This Workshop offer a chance to me to delve into the intricate electronics behind EV operation, including motor control, power electronics, and communication interfaces.

K.Bajali:

Understanding different charging technologies, protocols, and standards is crucial for the future of EV adoption. This workshop cover the basics of EV charging systems and their integration into vehicle design. Expanding beyond purely electric vehicles, i obtain knowledge about hybrid and fuel cell EVs, gaining insights into alternative technologies that contribute to sustainable transportation

**Conclusion:** The Electric Golf Cart Workshop symbolizes the power of collaboration, education, and innovation. The journey from design to realization underscores the potential within interdisciplinary teamwork and showcases the university's commitment to shaping the future of sustainable transportation.

### **Call to Action:**

Witness the Cutting edge of innovation. Stay connected with **RGUKT AP** for upcoming projects that redefine engineering possibilities and drive change in the world of transportation.

A heartfelt appreciation extends to **RGUKT AP** and its **RESEARCH CELL** for their unwavering support and faith in our abilities. We also extend our gratitude to **Skyy Rider Institution** for their valuable guidance.

**(Prof.G.Mohan Rao)**  
**Head Research Cell, RGUKT**