



**Automobile Club**  
**Government College of Engineering**  
**Nagpur**

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## AUTOMOBILE CLUB REPORT

Academic year: 2023-2024

- Faculty Coordinator: Prof. A.A.Uplap

### AIM

The aim of the club is to nurture and expand knowledge of automobile sector And to cultivate interest and provide a platform to showcase practical knowledge of students irrespective of their academic backgrounds. The Automobile club, focuses on enhancing awareness of individuals about quality automation in the industry and boost excellence in vehicle design with modified safety features.

Customer satisfaction is the key for innovation. The long term goal, of enhancing awareness, will lead the customers to question automobile manufacturers, regarding various vehicle aspects, ultimately changing the definition of quality product from, complied to all regulations, to complied to customer satisfaction. With this vision, we aim to contribute to automobile sector industries and boost 'Make in India' initiative.

### OBJECTIVES

1. To create an interest in students about Automobile manufacturing
2. To develop partnership with Industries for product development and research in automobile sector.
3. To create a chain link of participation in Go-Kart, Eco-Kart, SAE Supra, formula Bharat.
4. To be a part of Society of Automobile engineers (SAE).
5. To design and build working vehicle model and present it at national level competitions.
6. To assist students with automobile related projects.
7. To make students familiar with latest government regulations and policies related to safety and luxury, as well as, roads and highways.

**Faculty Coordinator: Prof. A.A.Uplap**  
COMMITTEE 2023-24

- PRESIDENT: KAUSHIK MASKE
- VICE PRESIDENT : AKASH PARASKAR
- SECRETARY: HIMANSHU WANJARI
- TREASURER : NIKHIL PAWAR
- EXECUTIVE MEMBER : HARNOOR THULI

# CLUB ACTIVITY

## 1) TRAINING SESSIONS 2023-24

### Training Sessions Report: Introduction

The Automobile Club recently conducted a series of training sessions aimed at juniors to impart knowledge about go-karting. The sessions were structured to cover various departments crucial to understanding go-kart dynamics and performance, including Powertrain, Steering, Braking, Fabrication, and Design & Analysis.

### Powertrain Department:

In the Powertrain department, participants learned about the heart of the go-kart: the engine, transmission, and drivetrain components. They gained insights into engine types commonly used in go-karts, transmission systems, and the role of drivetrain configurations in optimizing performance and power delivery.

### Steering Department:

The Steering department focused on the mechanisms and principles behind go-kart steering systems. Participants delved into topics such as steering geometry, steering ratio, and the importance of responsive steering for maneuverability and control on the track.

### Braking Department:

The Braking department provided participants with an understanding of braking systems essential for safety and performance. They learned about different braking technologies, such as disc brakes and drum brakes, as well as techniques for optimal braking, including modulation and threshold braking.

### Fabrication Department:

In the Fabrication department, participants were introduced to the process of building a go-kart from scratch. They learned about materials selection, welding techniques, chassis design, and assembly methods crucial for constructing a safe and competitive go-kart.

### Design and Analysis Department:

The Design and Analysis department focused on the theoretical and practical aspects of designing a high-performance go-kart. Participants learned about aerodynamics, suspension design, weight distribution, and the use of computer-aided design (CAD) software for modelling and simulation.

### Conclusion:

Overall, the training sessions provided juniors with a comprehensive understanding of the various departments involved in go-karting. By equipping them with knowledge in Powertrain, Steering, Braking, Fabrication, and Design & Analysis, the Automobile Club aims to nurture the next generation of skilled and knowledgeable go-kart enthusiasts, fostering a culture of safety, innovation, and excellence in the sport.

## 2) FKDC DRIVER TRAINING PROGRAM

We attended the driver's training program in September 2023 in Hyderabad.

The Formula Kart Design Challenge Driver Training Program was focused on equipping participants with essential skills and knowledge for competitive kart racing. The program likely covers various aspects, including vehicle dynamics, driving techniques, safety protocols, and race craft. Participants may receive hands-on experience with kart setup, tuning, and maintenance, along with classroom instruction and on-track practice sessions. Additionally, the program might incorporate fitness and mental preparation to enhance driver performance. Overall, it aims to cultivate well-rounded drivers capable of excelling in karting competitions.

## 3) FORMULA KART DESIGN CHALLENGE SEASON 7

We participated in FKDC Season 7 which was held in Coimbatore in October 2023

Introduction:

The Formula Kart Design Challenge held in Coimbatore in October 2023 brought together karting enthusiasts, engineers, and designers from across the region to showcase their innovative designs and driving skills. This report provides an overview of the event, highlighting key activities, participants' experiences, and outcomes.

Event Overview:

The Formula Kart Design Challenge in Coimbatore featured a series of competitive events, including design presentations, technical inspections, and on-track racing. Participants were required to design and build their karts within specified regulations, emphasizing innovation, performance, and safety.

Activities:

**Design Presentations:** Participants presented their kart designs to a panel of judges, detailing their engineering concepts, aerodynamic features, and technological advancements. This phase allowed teams to demonstrate their understanding of karting principles and showcase their creativity.

**Technical Inspections:** Karts underwent rigorous technical inspections to ensure compliance with safety standards and regulations. Inspectors evaluated various components, including chassis, brakes, steering, and safety equipment, to certify the karts for on-track competition.

**On-Track Racing:** Teams competed in thrilling on-track racing sessions, demonstrating the performance and handling capabilities of their karts. Races were held on a challenging circuit, testing drivers' skills in cornering, overtaking, and strategic decision-making.

**Participants' Experiences:**

Teams participating in the Formula Kart Design Challenge in Coimbatore had the opportunity to learn, collaborate, and showcase their talents. The event fostered a spirit of camaraderie among participants, encouraging knowledge sharing and friendly competition. Participants gained valuable insights into kart design, engineering principles, and race craft, enhancing their skills and passion for motorsport.

## **Outcomes/Achievements:**

**We won runner up prize in the skidpad event. This was our first technical award of the club. The Formula Kart Design Challenge in Coimbatore provided a platform for innovation, excellence, and sportsmanship. Participants showcased their ingenuity and dedication, contributing to the advancement of karting technology and performance. The event inspired the next generation of karting enthusiasts and highlighted the importance of collaboration and continuous improvement in motorsport.**

## **Conclusion:**

The Formula Kart Design Challenge in Coimbatore was a resounding success, bringing together the karting community and celebrating creativity, talent, and passion for motorsport. The event demonstrated the potential of karting as a competitive and accessible form of racing, inspiring participants to pursue their dreams and push the boundaries of innovation in the sport.

## **4) VISIT OF DR. VINOD MOHITKAR (DIRECTOR DTE)**

He visited our college and inspected our kart. He appreciated our efforts for building the kart. His visit to college and appreciating our efforts for building kart has definitely motivated us. His visit has provided the different insight and motivation for achieving the further higher goals in cart making. provided has provided us different insights about our kart.

## 5) ORANZ PERFORMANCE

The kart driving performance showcased the skill and precision of its driver and efficiency of the kart which was held on 9<sup>th</sup> February 2024. The oranz inauguration kart driving performance was a resounding success, showcasing the talent and dedication of the driver while providing an exhilarating experience for the audience

### PHOTOS :-



**Runner up Prize at Skipad Event in Coimbatore, Tamilnadu**



**The Formula Kart Design Championship in**





**Visit of DTE, Director Dr.Vinod Mohitkar at Gcoen Automobile club.**



**Training session for junior students @ Automobile cart making at GCOE, Nagpur**