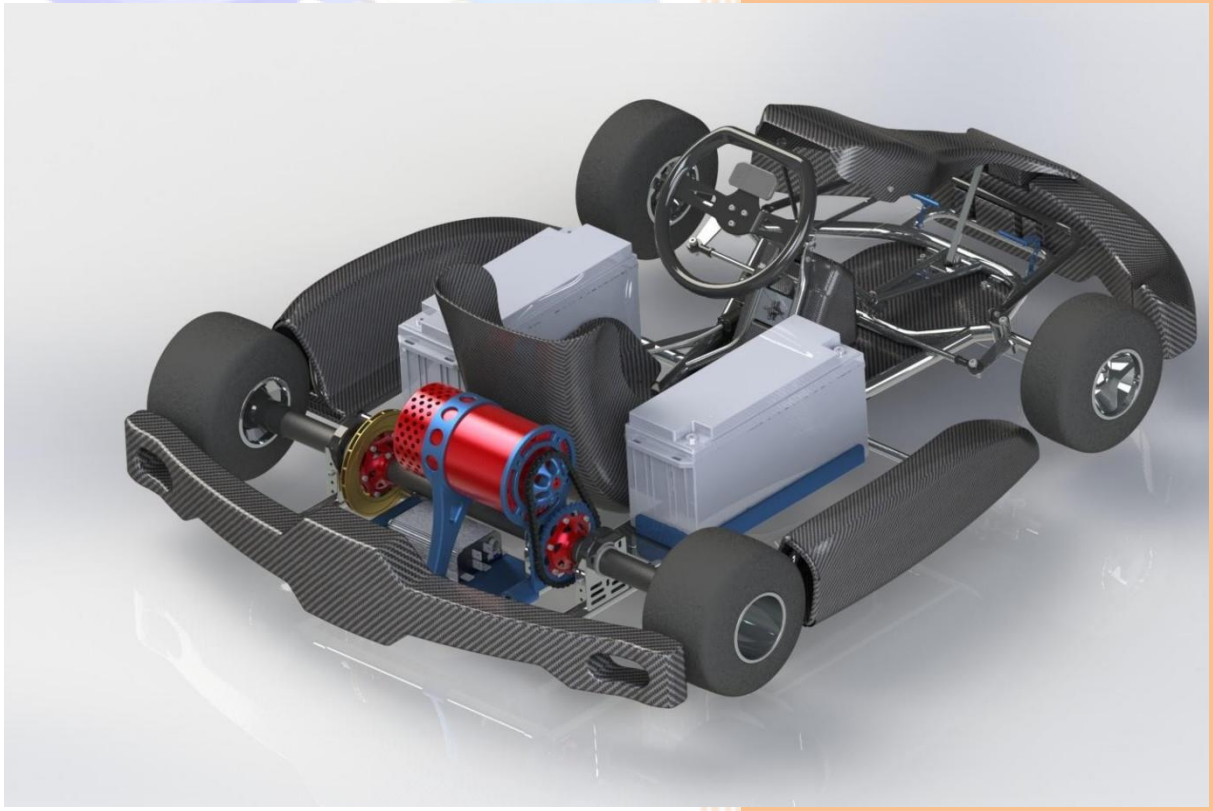
JNTUA COLLEGE OF ENGINEERING (Autonomous),
Pulivendula, Kadapa (Dist) - 516390

YANTRA 2K24

Gear Up to Reign...

HIGH SPEED E-VEHICLE DYNAMICS & DESIGNING



A THREE DAYS WORKSHOP ON HIGH SPEED ELECTRIC VEHICLE DESIGN & DEMONSTRATION

(F3 MODEL CAR & ELECTRIC GO- KARTS HANDS ON - DRIVING, ASSEMBLY & DISASSEMBLY)

Overview

A High Speed **electric kart**, also known as an **e-car** or **eco-friendly vehicle**, is a kart with an integrated electric motor which can be used for propulsion. There are a great variety of e-car available worldwide, from e-kart that only have a small motor. E-kart use rechargeable batteries and the lighter varieties can travel up to 80 to 120 km/h, depending on the laws of the country in which they are sold, while the more high-powered varieties can often do in excess of 90 km/h.

Workshop duration : 3 days

Workshop price : ₹ 700/- per head

Accommodation : ₹ 300/- per head

Date : OCT - 24, 25 & 26

Venue : Department of Mechanical Engineering, JNTUA college of Engineering, Pulivendula - 516390, Muddanur road, YSR Dist., Andhra Pradesh .

Course Content

Design Concept

- Introduction - E-car
- Frame Designing
- Battery & Motor Power & Current Calculation
- Methods to increase the efficiency of the battery
- Balancing of the System
- Centre of Height & Roll Centre Calculation
- Traction & Motor power relation

Technical Concept

- Motor Selection
- Stator
- Rotor
- Battery Selection
- Controller Selection
- Key Electrical Characteristics of E-kart Controller
- Voltage Regulating Circuit
- Battery Voltage Detect
- Hand bar Voltage Detection
- Feedback Current Detection

DYNAMICS OF BRAKING SYSTEM

- HOW TO FIND PROBLEMS IN BRAKING DESIGN
- PARAMETERS OF BRAKING DYNAMICS
- MARKET SURVEY FOR THE BRAKE DESIGN
- CALCULATION OF THE BRAKING EFFORT
- CALCULATION OF THE STOPPING DISTANCE
- CALCULATION OF DEACCELERATION
- CALCULATION OF THE WEIGHT DISTRIBUTION DURING DEACCELERATION
- BRAKING TORQUE
- FINALLY PREPARATION OF BRAKE DESIGN REPORT.

STEERING DYNAMICS AND DESIGNING

- STEERING PRINCIPLE
- STEERING GEOMETRY
- SLIP ANGLE
- TURNING RADIUS
- OVER STEER
- UNDER STEER
- STEERING RATIO CALCULATION
- STEERING EFFORT CALCULATION
- FINALLY PREPARATION OF DESIGN REPORT OF STEERING

SUSPENSION DYNAMICS

- SUSPENSION REQUIREMENTS FOR THE RACING CAR
- SUSPENSION REQUIREMENTS FOR THE COMMERCIAL CAR

Modelling & Drafting.

- Sketch Concept
- Frame Layout

Crash Test

- FEM Concept
- FEA Concept

CERTIFICATION:-

All the participants will be getting Certificate of Participation from AMZ Techversity in collaboration with following Companies & Institutions:

1. Hero MotoCorp
2. IIT Dhanbad
3. AMK Industry
4. RCDC India

HANDS ON SESSION ON TROUBLESHOOTING OF ELECTRIC VEHICLE

ELECTRICAL WIRING & CONNECTION

LIVE RIDING SESSION ON ELECTRIC VEHICLE BY STUDENTS

For any queries :

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