

**Problem:** To design a hubless wheel Ebike with the suspension and gears system.

**Description:**

You have to design an E-bike which can be used commercially. The concept of a hubless wheel will help to reduce the weight and **more traction and faster acceleration and torque** because the powering source endures less radius of rotating inertia compared to centered hub wheels. Also you have to add a suspension and gears system for smooth rides. Try to come up with a compact design of Ebike that has all these functionalities and that can be produced economically.

**Submission Details:**

- 1- Design complete Assembly with a working mechanism.
- 2- Simulation of Hubless wheel
- 3- Report submission with proper calculations.

**Benefits to students:**

It will help students to learn about 3-D modeling & simulations environment, and sharpen their knowledge of mechanics of vehicle design.