

MECHANICAL DESIGN OF TWO -WHEELER ELECTRIC VEHICLE

*A final Project report submitted in partial fulfillment of the
requirements For the award of the degree of*

BACHELOR OF TECHNOLOGY IN ELECTRICAL & ELECTRONICS ENGINEERING

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CERTIFICATE

This is certified that the project entitled " **MECHANICAL DESIGN OF TWO WHEELER ELECTRIC VEHICLE**" is a bonafide work submitted by **P DIVYA, K LEELA PRASAD, M UDAY SATYANARAYANA, T DIVAKAR, K B S NAGENDRA BABU** in partial fulfillment of the requirements for the award of degree of

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ABSTRACT

The mechanical design of a two-wheeler electric vehicle (EV) encompasses a multidisciplinary approach to create a vehicle that balances performance, efficiency, safety, and cost-effectiveness. This paper outlines the key considerations in designing such a vehicle, including chassis, frame, suspension, motor, drivetrain, battery, braking system, controls and instrumentation, safety features, ergonomics, materials, and manufacturing processes. Through collaboration among engineers from various disciplines, the goal is to develop a sturdy yet lightweight chassis, an aerodynamically optimized frame, a reliable suspension system, an efficient electric motor and drivetrain, an appropriate battery pack for range and durability, a dependable braking system with regenerative capabilities, user-friendly controls and instrumentation, comprehensive safety features, comfortable ergonomics, and the selection of suitable materials and manufacturing methods. By addressing these factors, the mechanical design of a two-wheeler EV aims to deliver a compelling solution for sustainable urban mobility.

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