

SIMULATION OF BATTERY MANAGEMENT SYSTEM IN MATLAB

*A 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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**DEPARTMENT OF
ELECTRICAL AND ELECTRONICS ENGINEERING**

AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Permanently Affiliated to Jawaharlal Nehru Technological University - Gurajada Vizianagaram, AP)

(An NAAC A+ Accredited Institution)

Tamaram, Narsipatnam, Anakapalli-531113

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CERTIFICATE

This is to certify that the project report entitled “**SIMULATION OF BATTERY MANAGEMENT SYSTEM IN MATLAB**” is a bonafied work submitted K V V GANESH, K SRINIVAS, K SRINU SAI, P VINAY KUMAR in partial fulfillment of the requirements for the award of degree of **Bachelor of Technology in Electrical & Electronics Engineering** from **Jawaharlal Nehru Technological University Gurajada Vizianagaram**, during the academic year **2023-2024**.

Internal Guide

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ABSTRACT

The increase of need for renewable sources has been increasing day by day. The recent diminishing of the oil reserves and increasing demand for cleaner alternative energy sources our dependence on the fossil fuels is diminishing and desire for cleaner, greener, more diverse sources of energy sources is increasing. Amongst this we have a huge part of our technological advancement that requires this change and that is transportation.

The transportation of the general population is very important to the economy, which also produces significant amount of greenhouse gases, which causes global warming. Hence, the most popular alternative to the conventional fossil fuel vehicles is the electric vehicles.

Our goal of this project is to collectively develop an electric vehicle and learn about the various techniques and methods for developing and building an EV. With this project we can gain valuable experience and knowledge of the development and servicing of an electric vehicle.

We as a team simulate the Battery Management system of the electric vehicle using MATLAB Simulink. The main goal of our team is to simulate and determine the designed Battery Management System is functioning as intended and meets the specified requirements by simulating the BMS we can get the analyze the characteristics and dynamic response of BMS to various load and fault conditions caused by the load and battery pack.