A Project Report On

DESIGN AND ANALYSIS OF E-CYCLE

A thesis submitted in the partial fulfillment of the requirement for the award for the degree of

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

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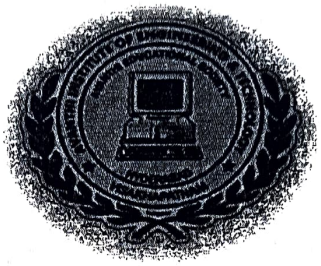

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CERTIFICATE

This is certify that the project work entitled **"DESIGN AND ANALYSIS OF E- CYCLE"** is a bonafied record of work done by **M.GYANESHWAR (19815A0351), S.SRI RAM (19815A0372), S.MANIKANTA (19815A0374), P.RAJESH (19815A0392)** in partial fulfilment of the requirement for the award of Bachelor of technology in MECHANICAL ENGINEERING by Jawaharlal Nehru technological university, Kakinada During the year 2019-2022.

PROJECT GUIDE **HEAD OF THE DEPARTMENT**

EXTERNAL EXAMINER

ABSTRACT

DESIGN AND ANALYSIS OF E-CYCLE

The objective of the project is to Design and Analysis of the E – cycle. Electric bicycles have been gaining increasing attention worldwide, Technology is developing fast and every day new developments are being done. Technology is a boon to many but it has its own limitations like driving a conventional I.C. engine bikes is expensive and also damage the environment. Also I.C. engine bikes require regular maintenance and operating cost is comparatively high. E-bikes is a possible solution to this problem but initial cost to buy one is much high. This project aims to mitigate the above listed problems by designing and converting an I.C. engine bike to an E-bike which will be driven by an electric motor with simplified mechanical chain drive system eliminating gear mechanism. Present work will be limited to design and Analysis of Complete frame structure.

This project intends to provide brief information about various components in an electric moped and to propose an optimal design of Frame. In order to attain optimal design, a conventional moped chassis is identified as a reference and according to the specifications and features of an electric vehicle, this conventional chassis is modified. Model is designed in CATIA and simulation was performed in ANSYS giving a desired fabricated model which is eccentric and light-weight.