

**FABRICATION OF SUSPENSION SYSTEM TO GENERATE  
ELECTRICITY**

A Project Report submitted in partial fulfillment of requirements for the

Award of the degree of

**BACHELOR OF TECHNOLOGY**

IN

**MECHANICAL ENGINEERING**

By

L.G. NAGENDRA (15815A0333)

CH. BENNA SWAMI (15815A0305)

P. SHANKAR (15815A0340)

L. VENKATA RAMANA (15815A0334)

BY

*Under the Esteemed Guidance of*

**Mr. J.JANARDHAN M. Tech.**

**Assistant Professor**



**DEPARTMENT OF MECHANICAL ENGINEERING**

**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**

(Permanently Affiliated to JNTU Kakinada, accredited by NBA&NAAC (B+), approved

By AICTE, recognized by UGC 12f & 2b)

Tamaram, Makavarapalem, Visakhapatnam, ANDHRA PRADESH-531113

2014-2018

**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**

(Permanently Affiliated to JNTU Kakinada, accredited by NBA&NAAC (B+), approved

By AICTE, recognized by UGC (2f & 2b)

Makavarapalem, Narsipatnam, Visakhapatnam-531113

**DEPARTMENT OF MECHANICAL ENGINEERING**



**CERTIFICATE**

This is to certify that this project work entitled "**FABRICATION OF SUSPENSION SYSTEM TO GENERATE ELECTRICITY**" that is being submitted by **L.G.NAGENDRA (15815A0333), CH.BENNA SWAMI (15815A0305), P.SHAANKAR (15815A0340), L.VENKATA RAMANA (15815A0334)** to AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, Makavarapalem, Visakhapatnam in partial fulfillment of the requirements for the award of degree of **BACHELOR OF TECHNOLOGY** in **MECHANICAL ENGINEERING** is a bonafide work carried out by them under my guidance and supervision during the year 2014-2018.

*Jana*  
Project Guide 31/3/18

*Halia*  
Head of the Department  
HEAD OF THE DEPARTMENT  
MECHANICAL ENGINEERING  
Avanthi Institute of Engineering & Technology

*[Signature]*  
External Examiner

## ABSTRACT

The main objective of designee this additional device for a vehicle suspension system is to reduce the discomfort sensed by passengers which arises from road roughness and to increase the ride handling associated with the pitching and rolling movements.

Road vehicles can expend a significant amount of energy in undesirable vertical motions that are induced by road bumps, and much of that is dissipated in conventional shock absorbers as they dampen the vertical motions.

As a regenerative shock absorber, the disclosed device is capable of converting parasitic displacement motion and vibrations encountered under normal urban driving conditions to a useful electrical energy for powering vehicles and accessories or charging batteries in electric and fossil fuel powered vehicles. The disclosed device is capable of high power generation capacity and energy conversion efficiency with minimal weight penalty for improved fuel efficiency.

Conventional fluid dampers are providing a reliable and low cost solution in vehicle vibration attenuation over the years. However, these convert vibration energy into heat, which is dissipated to the surrounding. A device capable of converting significant part of this energy into useful electric power, will improve overall fuel efficiency of the vehicle. In response to growing concern for increasing fossil fuel consumption in automobiles, energy harvesting shock absorbers have been extensively explored since past two decades.