

SRI SIDDHARTHA ACADEMY OF HIGHER EDUCATION

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AGALKOTE, TUMKUR-572 107, KARNATAKA



A Project Report
On

“POWER GENERATION USING LOAD SENSORS AND SOLAR PANEL IN AUTOMATED TOLL GATE SYSTEM”

(Sponsored by KSCST, Bangalore)

Submitted in partial fulfillment of requirements for the degree

BACHELOR OF ENGINEERING IN ELECTRICAL AND ELECTRONICS ENGINEERING

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ABSTRACT

The main aim of the project is to generate power using load sensors (piezoelectric sensors) and solar panel at toll gate system. It has been observed that a lot of electrical energy is wasted at toll gates just to operate gates, computer systems and for lighting. Nearly 500 units of electrical energy are required to operate one toll gate in one day. If all the toll gates are considered, a huge amount of electrical energy is needed. Electrical energy can be generated at the toll gates by using LOAD SENSORS and SOLAR PANELS to overcome this problem. Load sensors directly produces electrical energy when pressure is exerted that can be used for direct supply of electronic devices. A Solar panel is a set of solar cells that converts solar energy directly into electrical energy through photovoltaic effect.

Nowadays there is a huge rush in the toll plazas in order to pay the toll tax. Therefore in order to reduce the traffic jam and to save time. We have designed project for the automation in toll tax payment using RFID. We have made the automation of toll plaza using combination of microcontroller, RFID. This report explains the implantation of automation in toll plaza which is a step towards improving the monitoring of vehicles, travelling in predetermine routes. The aim of our project is to design a system, which automatically identifies an approaching vehicles and record vehicles number and time. If the vehicle belongs to the authorized person, it automatically opens the toll gate and a predetermined amount is automatically deducted from its account. This reduces Traffic congestion at toll plazas and helps in lower fuel consumption. This is very important advantage of this system.