**aUTOMATED TOLL GATE COLLECTION SYSTEM**

**AIM:**

This project is to implement a TOLLGATE passing system using RFID technology**.**

**PURPOSE:**

The purpose of the project is to provide a system to pay the toll gate tax using smart card.

**TOLL GATE SECTION:**

**MICRO CONTROLLER**

**AT89S52**

**POWER SUPPLY**

**LCD DISPLAY**

**(16 X 2 LINES)**

**RFID READER**

**KEYPAD**

**BUZZER**

**GATE**

**MOTOR DRIVER**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

RFID is an acronym for *Radio Frequency Identification.* In general terms, RFID is a means of identifying a person or object using a radio frequency transmission. In other words RFID is an electronic method of exchanging data over radio frequency waves. The technology can be used to identify, track, sort or detect a wide variety of objects.

There are three major components of an RFID system: the reader, the antenna, and the tags. Each tag is associated with a unique number. When a tag is in the detection range of the reader, the number is read. Two types of tags can be found: active tags with a longer detection range and passive tags with a shorter detection range. An RFID tag is usually attached to an object and the information of the object along with the RFID number are recorded in the database. Whenever the RFID tag is sensed, the object can thus be identified.

The main objective of this project is to pay the toll gate tax using RFID.whenever a person wants to pay the toll gate tax, he needs to show his rfid card nearer to the rfid reader. The reader will read the card and tells if it is valid or not. If it is valid card then the amount will be deduct using keypad. And the gates will open for him. If it is an invalid card then the buzzer will buzz indicating the card is invalid. By using this kind of projects there is no need to carry the amount in form of cash and so we can have security as well.

**HARDWARE COMPONENTS:**

1. Microcontroller (AT89S52)
2. Power supply
3. RFID reader
4. LCD display (16\*2 lines)
5. GATE driver circuit
6. Keypad
7. Buzzer

**SOFTWARE:**

1. Kiel U vision
2. Express PCB
3. ISP

**RESULT:**

By using this project we can implement a toll gate passing system using RFID technology.