ABSTRACT

The Project Automatic Car Parking System using 89C51 Microcontroller is an

interesting project which uses 89C51 microcontroller as its brain. The project is designed

for car parking.

The aim of this project is to atomize the car park for allowing the cars into the

park. LCD is provided to display the information about the total number of cars that can

be parked and the place free for parking. Two IR TX – RX pairs are used in this project

to identify the entry or exit of the cars into/out of park. These two IR TX – RX pairs are

arranged either side of the gate. The TX and RX are arranged face to face across the road

so that the RX should get IR signal continuously.

Whenever the mains are switched on, the LCD displays the message “parking

space for 10 vehicles”. The number indicates the maximum capacity of park in this

project. Whenever a car comes in front of the gate, the IR signal gets disturbed and the

microcontroller will open the gate by rotating the stepper motor. The gate will be closed

only after the car leaves the second IR pair since the microcontroller should know

whether the car left the gate or not. Now the microcontroller decrements the value of the

count and displays it on LCD. In this way, the microcontroller decrements the count

whenever the car leaves the park and displays it on LCD.

If the count reaches ‘0’, i.e. if the park is completely filled, the microcontroller

will display “NO SPACE FOR PARKING” on LCD. And now if any vehicle tries to

enter the park, the gate will not be opened since there is no space. If any vehicle leaves

the park, the controller will increment the count and allows the other vehicles for parking

This project uses regulated 5V, 500mA power supply. Unregulated 12V DC is

used for relay. 7805 three terminal voltage regulator is used for voltage regulation.

Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V

step down transformer