S.G.A.GOVERNMENT DEGREE COLLEGE
(Re-accredited by NAAC with 'A' Grade, Affiliated to Andhra University)
YELLAMANCHILI - 531055, ANDHRA PRADESH
DEPARTMENT OF PHYSICS

Project Name

Water Overflow Alarm Indicator

Project Guided by

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Project done by

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Water Overflow Alarm Indicator

Aim: Setting up of water level alarm indicator in our college campus at two places to minimize wastage of water and power

Introduction

we the group of three members are engaged to do Water Level over flow Indicator by Department of Physics. We have implemented this at two overhead water tanks in our college campus. Nowadays everybody has overhead tank at their homes. But everyone who has a water tank top of their homes knows the kind of problems that they face. Initially there is no system to track the water in the tank. Second problem is that when their water pump is started they have no idea when it gets filled up. Sometimes there are situations where the pump keeps on pumping water to the tank and the water starts spilling out from the tank. There is wastage of energy as well as wastage of water.

Components Required:

Buzzer, wire, nails…

Working

Now as the water starts to rise up the sensors starts to get in contact with the water and the transistors are activated and there is a flow of current in the transistors making the LED's light up. Here in between the transistor and the LED there is a current limiting resistor 470 ohms, the job of the resistor is to checks that the LED does not get over voltage and destroy the LED. The transistor is biased by a 470K resistor with the ground and the sensing part is taken from the collector with a 33 ohms resistor going directly to the tank.

The Buzzer Part

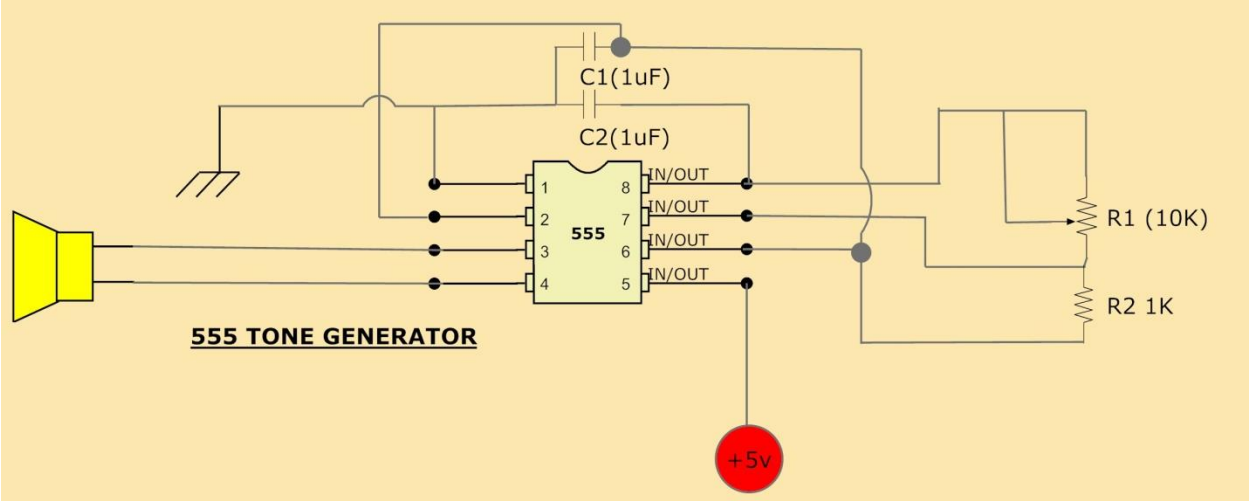
Here you can add any of the normal buzzers that are readily available in the market and if it is not then you can make yourself with a simple 555 IC. We are giving a small circuit diagram, it is really simple to make it with a minimum components. It is a simple audio oscillator. We have also provided a circuit diagram.

The Power Supply

This section contains a transformer converting the mains voltage 220V brings down to 9V. There is a bridge rectifier containing 4 diodes and making the Alternating current to Direct Current. After the filtering the voltage is then directly fed to the voltage regulator (7805) with a filtering capacitor. From the regulator IC the output voltage is then again filtered with a capacitor and is fed to the circuit. This comprises the power supply of the device.

Outcomes

We minimized the water wastage and power wastage in our campus



Above two figures shows circuit diagram of Buzzer indicator and tanks for which our project is implemented.

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Project implemented at overhead tanks located at top of principal chamber and top of seminar hall by our team members.