Dependable Flow and Flood Control of Water Dam

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Abstract: Now-a-days, water scarcity is becoming a serious problem in India and there are many factors responsible for this like improper utilization of water from the dam. So here is a simple project that will guide you to make a circuit which controls water level present in the dam. The simple transistor and relay based dependable flood control performance of water dam circuit is very useful to control the water level in the dam. Besides, the development of this project was also aimed to fulfilling both irrigation and non-irrigation water. Whenever the water in the dam reaches to high level the crust gates will automatically open. To open the gates we are using a relay and we have also used LED'S to indicate the initial levels and one relay is placed at high level. When the water in the dam reaches to high level then the dam gates will open. When it reaches to low level the dam gates will automatically close.

(**keywords**: Flood control, water dam, Dependable flow)

Introduction:

When floods occur, the water in the dam reaches more than the specified level so the management wing will open the dam gates to release water. When the water in the dam are released during floods time there is a chance of getting shock to a person and villages near the dam areas get immersed.

To overcome this problem here is a simple project where the dam gates are automatically controlled. By using this project the wastage of water will be less and there is no effect to the villages.

In this project we are indicating the different levels of water to know the water level in the dam.

This indicating will help us to know whether the gates are opening with the level of water when it reaches more than the specified level. And we know the water levels in the dam with this indication. This will very useful for the villager which is locating nearer to the dam.

Circuit Diagram:
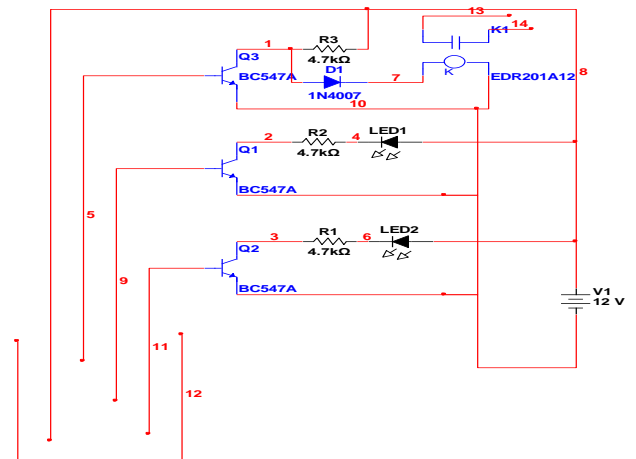
Working:

During the rainy seasons we observe floods occurs and water in the dam reaches to higher level. Then the management wing will open the dam gates manually with this villages which is nearer to the dam is immersed totally. To overcome this by using a simple circuit we are prepared a prototype project. In this project we are considering the LED'S, transistors (NPN), resistors, relay and motor. Firstly we are placing all the transistors, LED'S, and resistors are connected in series and all the wires from base of transistors are immersed in water at different levels.

In this circuit we are using two different power supplies. For indicating the level of water, we are using a dc power supply this supply is given to the transistor. To glow the indicating led's in the circuit. And with the concept of bridge full wave rectifier we are using a rectifier to rectify the Dc source which get passed from the LED is gets rectified for switch on the relay to run the motor. When the water reaches to lower level the low level led gets start glowing , at medium level the led at medium level is start glowing , and when the water reaches more than the specified level the LED or buzzer which is placed at this level is ready to indicate the water level at that level of water in the dam. And when the water again starts increasing more than this level then the relay which is connected to rectifier and transistor collector in this circuit is gets turned ON.

When the relay gets turned 'ON' in this circuit then the motor which connected to the relay is start to rotate in forward direction. Then dam gates which connected to

the motor is starts opening with the forward rotation of motor When the water in dam goes out due to this action of opening of gate. Then the water level in the dam gets decreasing. When the water level reaches less than the specified level, then motor will rotate in reverse direction. With this action the dam gates will start closing. Then relay goes into normally closed mode and get turned 'OFF'.

In this way without using any sensors, micro controllers and without any manual operation we are controlling the overflow of water in the dam.

Working Model:

Conclusion:

This proto type model was tested with good results giving alertness at every stage with buzzer sound and also can be implemented with motor connecting with relay circuit.

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