Mini Project Report

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Under SECTION 3 of the UGC Act, 1956)

DELHI-NCR CAMPUS, MODINAGAR, GHAZIABAD-201204

Submitted by

Anshit Kumar Srivastava

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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Department of Electronics & Communication Engineering

CERTIFICATE

Certified that the mini-project work entitled **"MINI PROJECT"** is a bonafide work carried out by

Anshit Kumar Srivastava

The report has been approved as it satisfies the academic requirements in respect of mini-project work prescribed for the course.

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Mini-Project Coordinator

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Mini-Project Coordinator

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Dr. Rohit Sharma

Head of the Department

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Earthquake Detector

1.1 Introduction

The "Earthquake detector" for long-wave seismic motion uses an electrostatic capacity acceleration sensor, the same as in cars, produced with semiconductor micromachining technology. This system is able to detect ground oscillation, even the longer vibration cycles (long-period seismic motion).

1.2 Apparatus Required

S No.	Description	Quantity
1	IC555	1
	IC741	1
2	Piezo element	1
3	Transistor BC548	1
4	Resistor	
	12kΩ	2
	150KΩ	1
	100Ω	1
	1KΩ	1
	100kΩ	1
	4.7KΩ	1
	1M	1
5	Capacitor	
	0.1uF	2
6	LED	1
7	Battery	1

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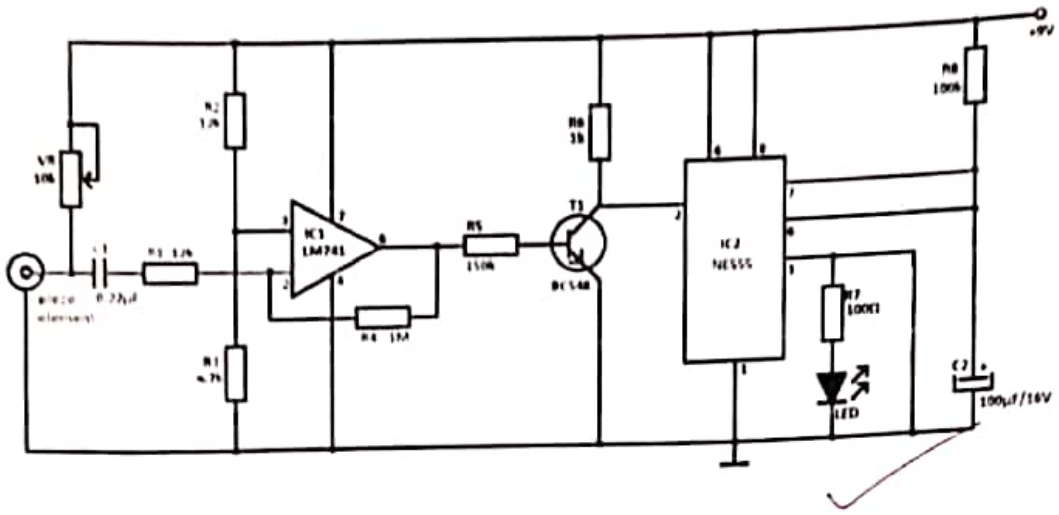
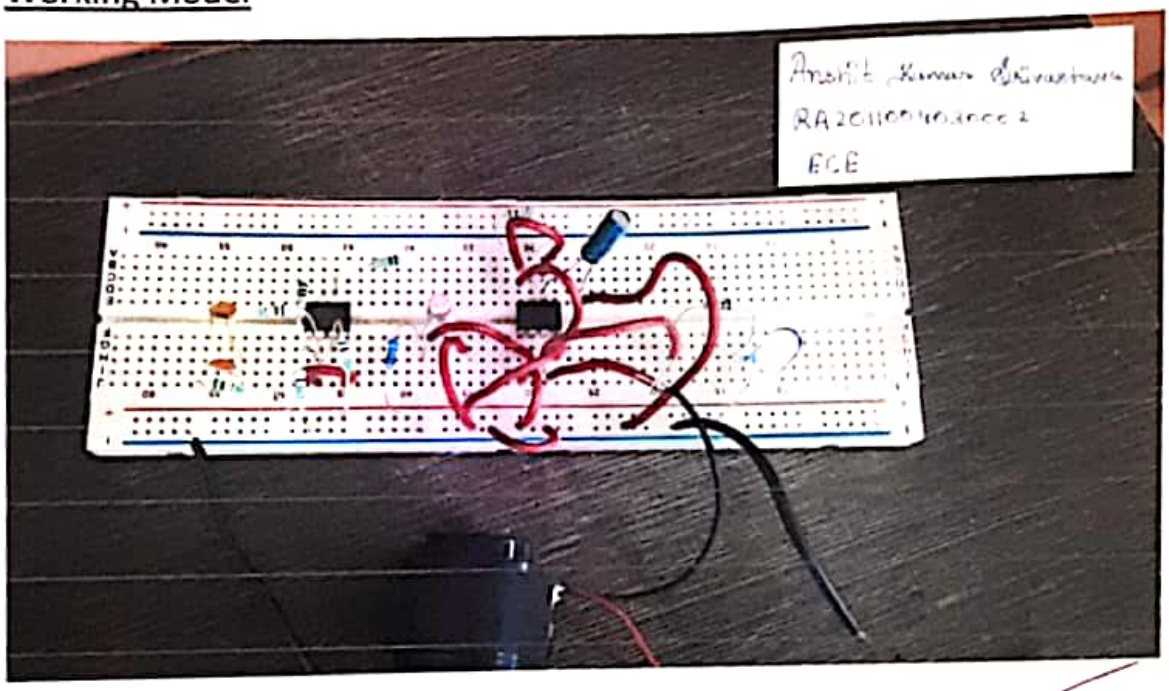
Circuit Diagram



Working Model



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Clap switch circuit

2.1 Introduction

This Clap switch circuit using IC 555 is a hobby circuit, makes LED to glow while you clap or make louder noise. The condenser mic reacts as sound sensor, this will produce voltage oscillation when the loud sound produced. Those voltage oscillation signals are amplified by two stage (BC547) amplifier and given into triggering input of IC555. When receiving triggering input, the timer IC makes mono pulse depends on timing resistor and timing capacitor (R2, C2). Here output drives LED, we can connect buzzer or relay as required for our need.

2.2 Apparatus Required

S No.	Description	Quantity
1	IC 555	1
2	Condenser Mic	1
3	Transistor BC547	2
4	Resistor	
	3.3kΩ	1
	100KΩ	1
	470Ω	1
	1KΩ	1
	220Ω	1
5	Capacitor	
	0.1uF	1
	10uF	1
6	LED	1
7	Battery	1

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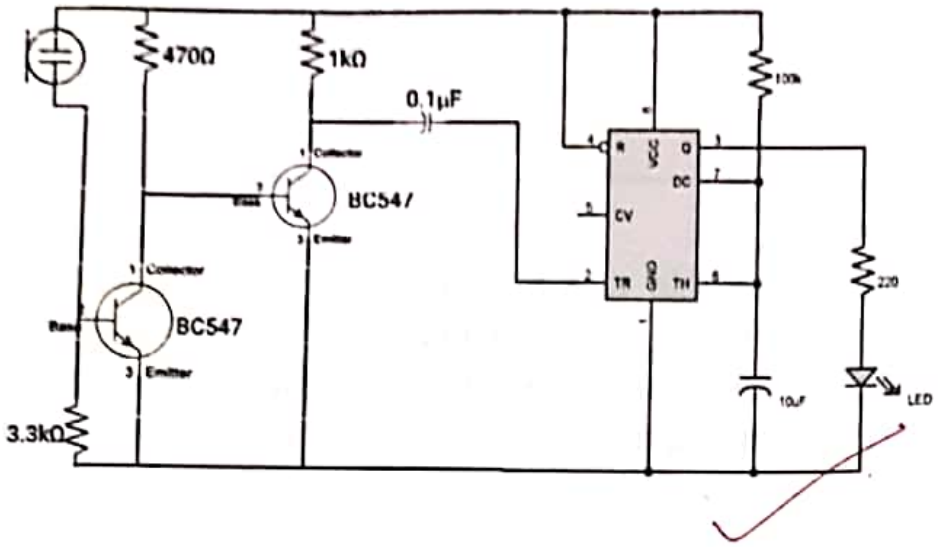
Circuit Diagram



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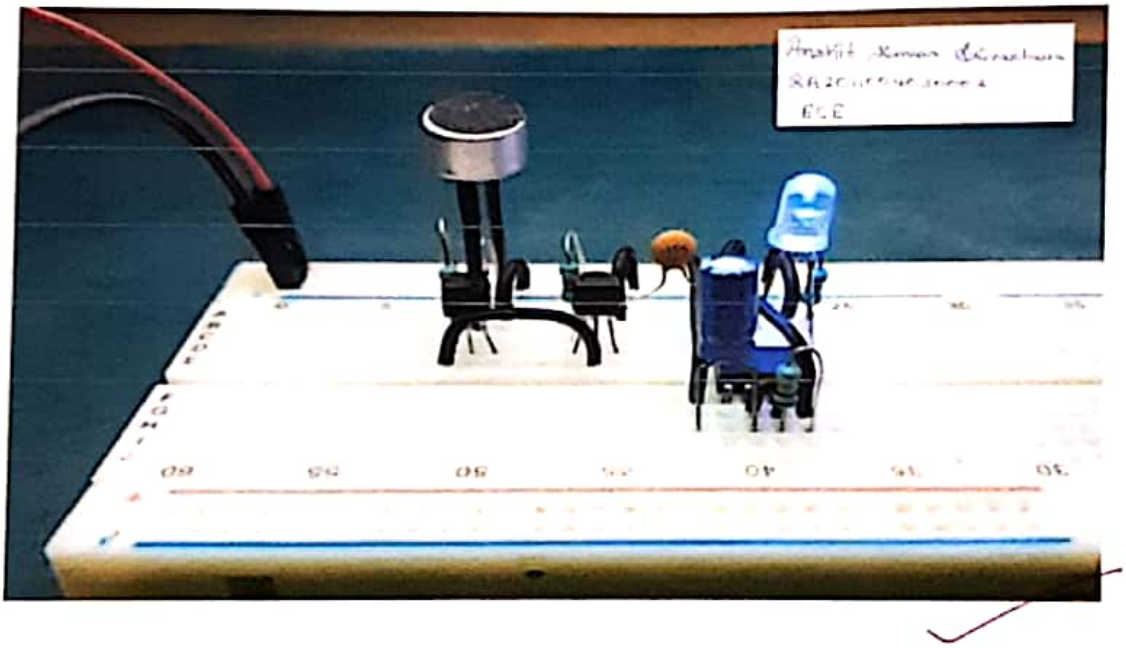

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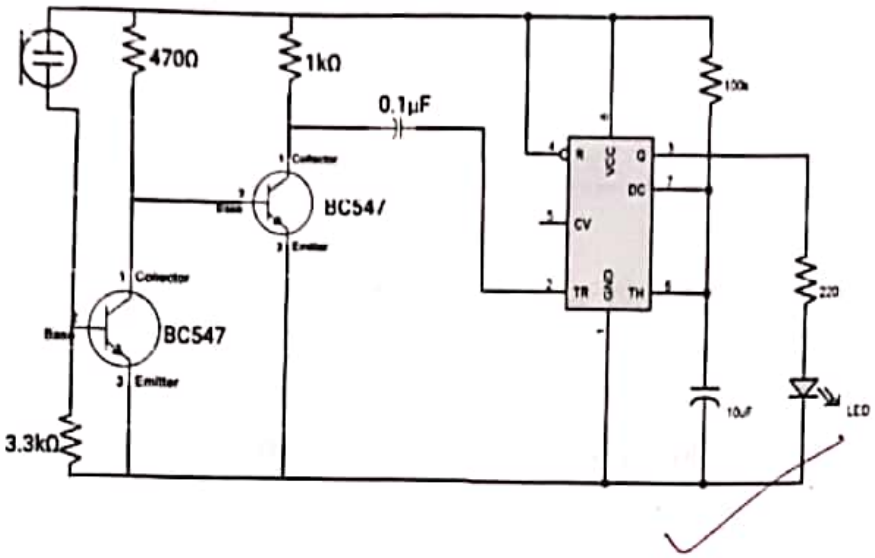

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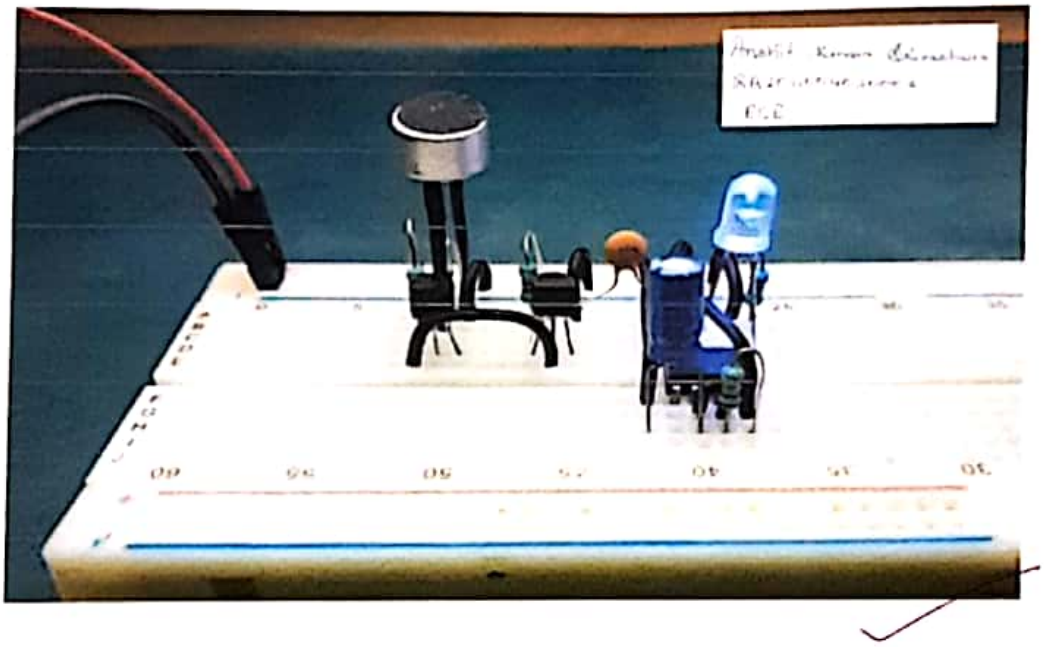

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Simple water level indicator

3.1 Introduction

The water level alarm circuit is a simple mechanism to detect and indicate the level of water in the overhead tank and also in the other containers. Nowadays, all the house holders /owners are storing the water in overhead tanks by using the pumps.

3.2Apparatus Required

S No.	Description	Quantity
1	Transistor BC547	1
2	Buzzer	1
3	Resistor 330Ω 100Ω 4.7KΩ	 1 1 1
4	LED	1
5	Breadboard	1
6	Battery	1

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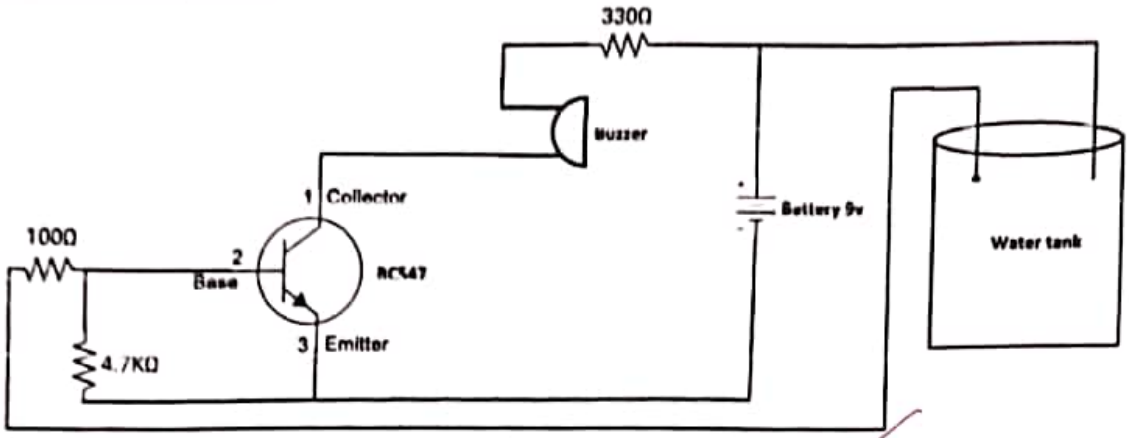
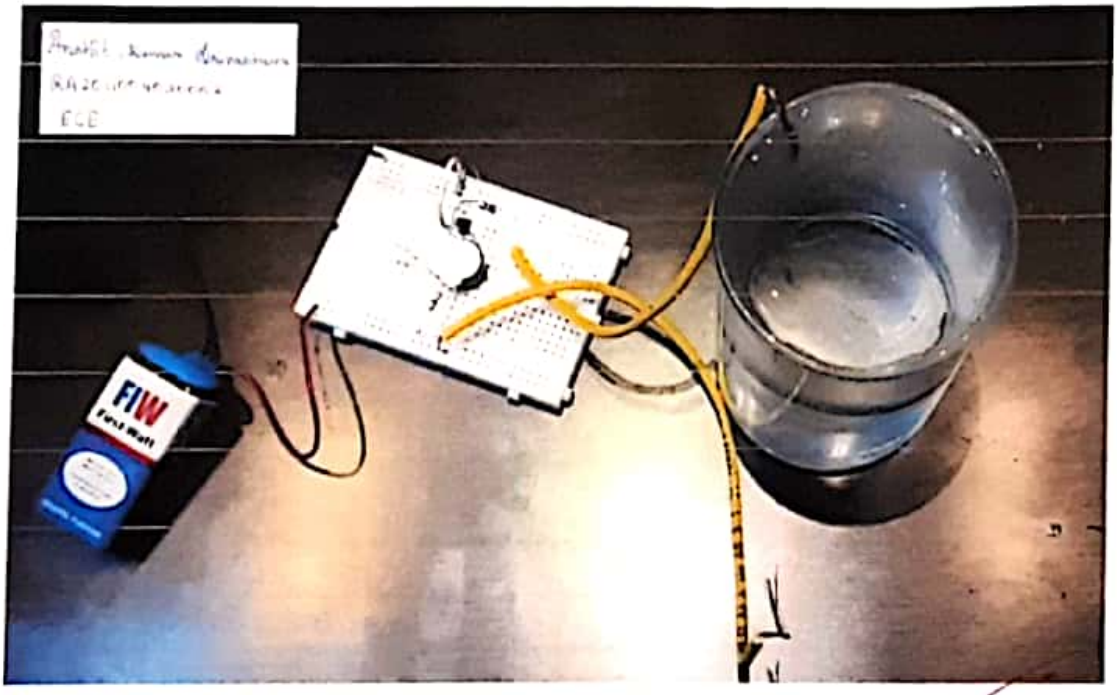
Circuit Diagram



Working Model



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Automatic Street Light Controller

4.1 Introduction

Automatic street light control is used to control the street lights (Turn on and off based on the light). Here we make use of LDR (Light Dependent Resistor) and LED (Light Emitting diode)

4.2 Apparatus Required

S No.	Description	Quantity
1	Transistor	
	2n2222	1
	BC557	1
2	LDR	1
3	Resistor	
	100kΩ	1
	10Ω	1
4	LED	1
5	Breadboard	1
6	Battery	1

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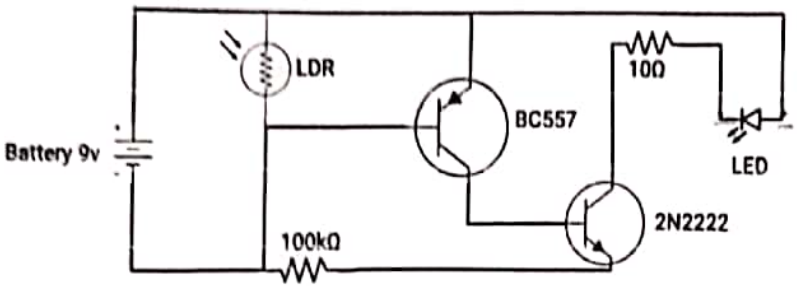
Circuit Diagram



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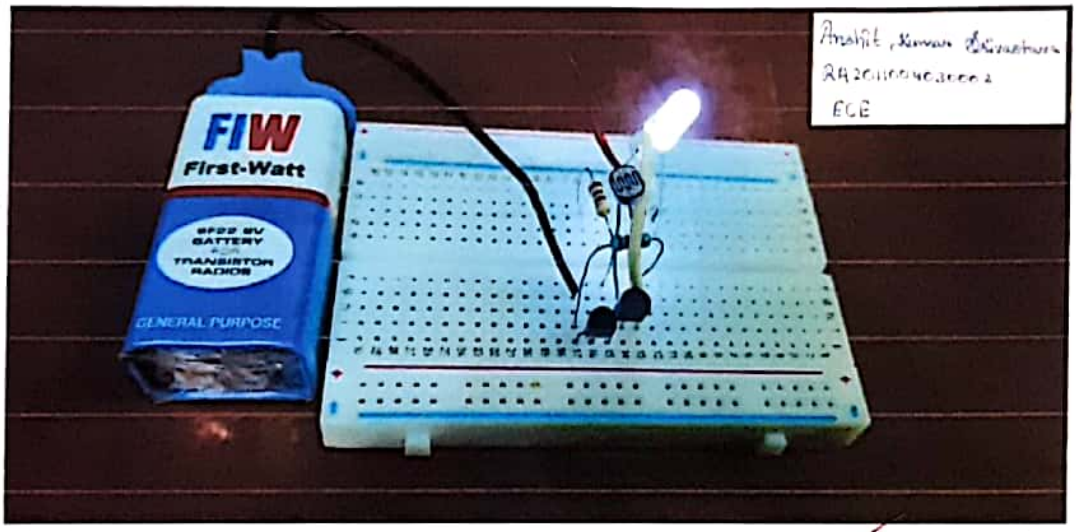

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Soil Moisture Sensor

5.1 Introduction

Soil moisture sensors measure the water content in the soil and can be used to estimate the amount of stored water in the soil horizon. Soil moisture sensors do not measure water in the soil directly. Instead, they measure changes in some other soil property that is related to water content in a predictable way.

5.2 Apparatus Required

S No.	Description	Quantity
1	Transistor BC547	1
2	Resistor 680kΩ	1
3	LED	1
4	Plant	1
5	Breadboard	1
6	Battery	1

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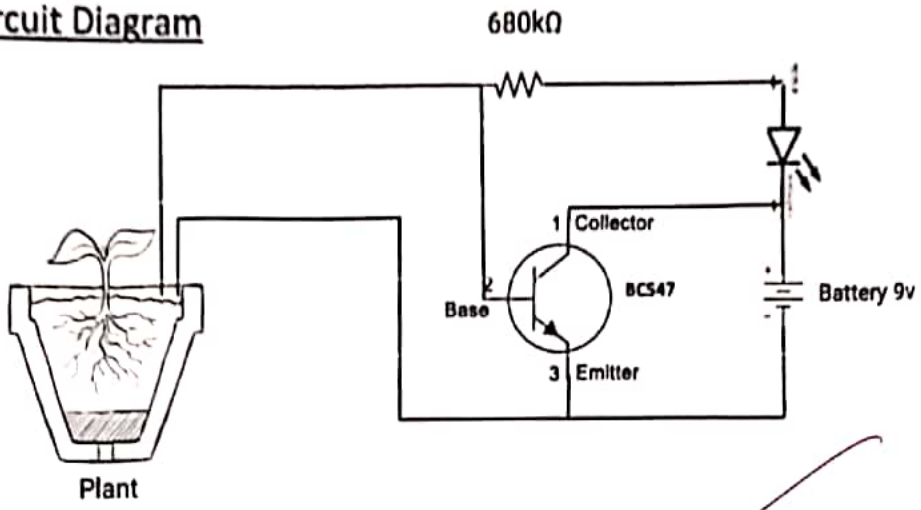
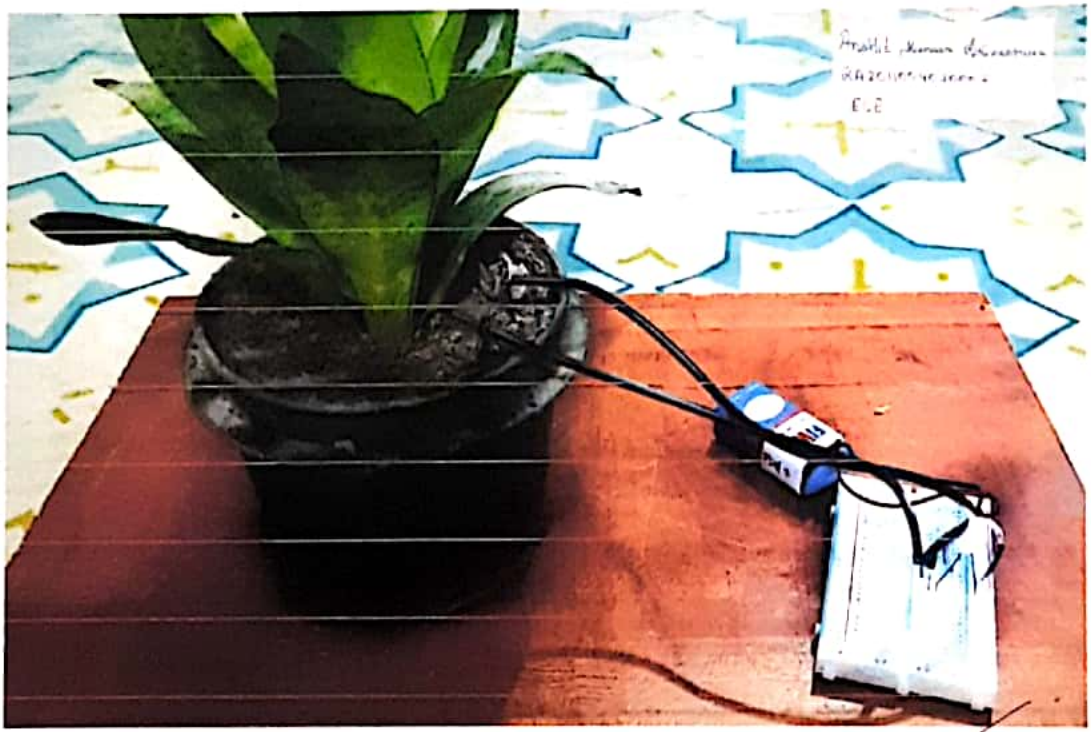
Circuit Diagram



Working Model



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