

**Project Report**

on

**“WATER AND SOIL MONITORING FOR FARMERS USING  
MICROCONTROLLER BASED SYSTEM”**

**(sponsored by KSCST, IISc, Bangalore)**

*submitted in partial fulfillment of the requirement for the award of the degree*

*of*

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*in*

**TELECOMMUNICATION ENGINEERING**

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# **ABSTRACT**

**The project Water and soil monitoring for farmers using microcontroller based system consist of two parts borewell water depth measuring device and a handheld device for measuring the moisture and temperature contents of the field.**

**The borewell water depth measuring device consists of a pulley float system interfaced to the 89C51 microcontroller. The float is suspended into the borewell through pulley, the rotation made by the pulley is counted using an opto-coupler and microcontroller we can count the water depth. Once the water depth crosses the danger mark, an alert is sent to the concerned person using through a SMS and the pump is switched OFF.**

**The handheld device measures the temperature and moisture contents of the soil and sends the updates to a target mobile. The output of both the sensors are linear analog, hence an ADC is used to convert into digital signal. The microcontroller reads the ADC data and sends it to a target GSM mobile along with the GPS coordinates.**