



# CVR COLLEGE OF ENGINEERING

(An UGC Autonomous Institution with NAAC 'A' Grade, Affiliated to JNTUH)  
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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### INDUSTRY ORIENTED MINI PROJECT (Academic Year 2021 -2022)

**Project Topic:** SMART FARM IRRIGATION WITH AIR QUALITY MEASUREMENT USING IOT

#### Abstract

Farming is backbone of economy and it is the fundamental method for occupation. Most of the cultivation cannot be productive only by physical activities so have to be handled by innovative technologies. Therefore, we use IoT innovation to contribute in the critical part of farming.

The proposed solution eases the monitoring of required agricultural parameters such as monitoring the required amount of water required for the crops, checking of soil PH-levels which helps in determining the soil strength and also measures the air quality. In this project, we will use capacitive soil moisture sensor to measure moisture content present in the soil, we will also use DHT11 Humidity temperature sensor to measure air temperature and humidity. Using a 5V relay water pump will be controlled. Whenever low quantity of moisture is detected in the soil the motor automatically turns ON, and hence the required amount of water is provided. Once the soil becomes wet the valve gets turned OFF. Additionally, the quality of air will also be monitored using MQ-135 sensor. The overall functioning will be completely automated using Wi-Fi modules, where one Arduino with a Wi-Fi module(ESP8266 node-mcu) will be acting as a coordinator and the other will be acting as the worker, thus creating a inter communicating Mesh Topology. And all the data can be monitored through the webpage.

S. No	Batch No	Name of group members	Registration number	Signature of the Supervisor with date	Name of the Supervisor
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