



Mini Project Report on

“SMART POLYHOUSE IRRIGATION MANAGEMENT SYSTEM”

Submitted in partial fulfilment of the requirements for the award of degree

**BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING**

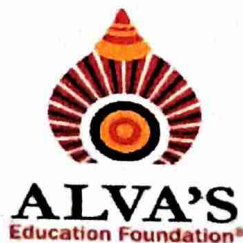
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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CERTIFICATE

This is to certify that the following students,

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has submitted Project synopsis on **"SMART POLYHOUSE IRRIGATION MANAGEMENT SYSTEM"** for VI Semester B.E. in Electronics & Communication Engineering during the academic year 2023-24. The mini project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.


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ABSTRACT

The project focuses on the development of an intelligent irrigation management system for a smart polyhouse using Arduino. The system integrates a soil moisture sensor, a relay module, and a 12V DC water pump to automate the watering process based on real-time soil moisture levels. The soil moisture sensor continuously monitors the soil's moisture content and sends the data to the Arduino. When the moisture level drops below a predefined threshold, the Arduino activates the relay to turn on the water pump, providing irrigation to the plants. This automated process ensures optimal soil moisture, promoting healthy plant growth while conserving water.

Furthermore, the project incorporates a comprehensive database of various plants, detailing their specific water and fertilizer requirements. This database is accessible via a web interface, allowing users to customize the irrigation settings for different plants in the polyhouse. By leveraging real-time sensor data and plant-specific requirements, the system enhances the efficiency of water usage and improves crop yield.

The project aims to reduce manual labor, minimize water wastage, and ensure the optimal growth of plants in a controlled polyhouse environment. The implementation of this smart irrigation system demonstrates a practical application of IoT (Internet of Things) in agriculture, showcasing how technology can contribute to sustainable farming practices.