

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA CAMPUS, BELAGAVI-590018



MINI PROJECT REPORT

OF

SOIL MOISTURE DETECTOR

Submitted by

NANDAN S 4AL21IS033

SHRUJAN KUMAR H V 4AL21IS053

Under the Guidance

of

Mr. PRADEEP V

Associate professor



**DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

MOODBIDRI- 574225, KARNATAKA

2022-23

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY
MOODBIDRI- 574225, KARNATAKA



DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

CERTIFICATE

Certified that the mini project work entitled "SOIL MOISTURE DETECTOR" is a bonafide work carried out by

NANDAN S 4AL21IS033

SHRUJAN KUMAR HV 4AL21IS053

in partial fulfilment for the award of **BACHELOR OF ENGINEERING** in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2022-2023 It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

Mr. PRADEEP V

Project Guide

Dr. SUDHEER SHETTY

Head of Department

ABSTRACT

The soil moisture detector is a crucial instrument for modern agriculture, environmental monitoring, and landscaping. It facilitates the precise measurement of soil moisture content, enabling more efficient irrigation practices, better crop management, and informed decision-making. This abstract provides an overview of the soil moisture detector, highlighting its significance, working principles, and applications.

The soil moisture detector operates based on various sensing technologies, including capacitance, resistive, and time-domain reflectometry (TDR). It measures the moisture content in the soil by assessing the dielectric properties or electrical resistance. The device can be deployed in diverse environments, ranging from agricultural fields to gardens and research plots.

The importance of the soil moisture detector lies in its ability to optimize resource utilization. By providing real-time data on soil moisture levels, it enables users to apply irrigation precisely when and where needed, conserving water resources and reducing energy consumption. The detector contributes to crop health and yield improvement by ensuring that plants receive the appropriate amount of moisture.

Remote accessibility through web or mobile applications allows users to monitor soil conditions from anywhere, facilitating timely responses to changing moisture levels. The device's user-friendly interfaces make it accessible to individuals with varying levels of technical expertise.

In summary, the soil moisture detector is a valuable tool for modern agriculture and land management. Its role in resource conservation, crop health improvement, and data-driven decision-making is crucial for achieving sustainable and efficient practices in the agricultural and environmental sectors.