

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi - 590 010



PROJECT REPORT ON

**"IOT BASED REAL TIME MONITORING AND
CONTROL SYSTEM FOR MUSHROOM FARM"**

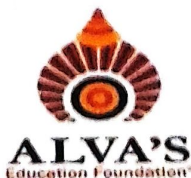
Submitted in partial fulfillment of the requirements for the award of degree

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

Submitted By

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**Under the Guidance of
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Associate Professor
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY
MOODBIDRI - 574 225.**

2022-2023

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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(Affiliated to VTU, BELAGAVI)

A+, Accredited by NAAC & NBA (ECE & CSE)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "IOT BASED REAL TIME MONITORING AND CONTROL SYSTEM FOR MUSHROOM FARM" is a bona fide work carried out by

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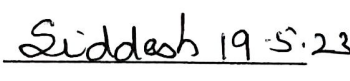
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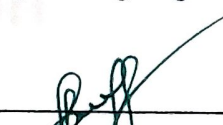
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in partial fulfillment for the award of **BACHELOR OF ENGINEERING** in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2022-2023. It is certified that all corrections/suggestions 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 the Project work prescribed for the Bachelor of Engineering Degree.


Signature of the Guide
Mr. Sudhakara H M

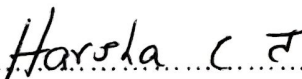


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ABSTRACT

The Internet of Things (IoT) has revolutionized the way we interact with the world around us. This study proposes an IoT-based approach to improve the process of milky mushroom cultivation. The proposed system uses a GSM module and a Blynk app to monitor and control various environmental parameters crucial for the growth of milky mushrooms. The system employs various sensors to measure the temperature, humidity in the mushroom cultivation environment. The data collected by these sensors is transmitted to a microcontroller, which processes the data and sends it to the GSM module. The GSM module then sends the data to the Blynk app, allowing growers to remotely monitor and control the environmental conditions in their mushroom grow room. The Blynk app allows growers to set thresholds for various environmental parameters, and if the readings go beyond these thresholds, the system sends an alert to the grower's mobile phone. This helps growers take proactive measures to prevent any damage to the crop. Overall, the proposed system offers a cost-effective and convenient way to monitor and control the mushroom cultivation environment. With the help of the GSM module and Blynk app, growers can optimize the environmental conditions for milky mushroom cultivation, leading to higher yields and better-quality mushrooms.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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PROJECT REPORT ON
"FERTILIZER QUALITY TESTING MACHINE
USING IR SPECTROSCOPY"

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

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

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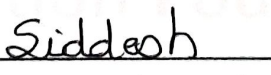
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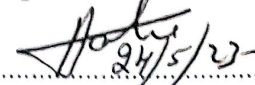
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ABSTRACT

The quality assessment of fertilizers is crucial for ensuring optimal agricultural productivity and environmental sustainability. This abstract introduces a novel approach for evaluating fertilizer quality using infrared (IR) spectroscopy. IR spectroscopy offers a rapid, non-destructive, and cost-effective method for analysing the chemical composition of materials.

The proposed Fertilizer Quality Testing Machine employs IR spectroscopy to analyse various parameters, including nutrient content, impurities, and chemical composition of fertilizers. The system consists of an IR light source, sample chamber, detector, and data analysis software. Fertilizer samples are placed in the sample chamber, and IR light is passed through the sample. The resulting spectrum is captured by the detector and processed using advanced algorithms. By comparing the obtained IR spectra with a comprehensive spectral library, the machine can determine the concentration of essential nutrients such as nitrogen, phosphorus, and potassium in the fertilizer samples. Additionally, it can identify and quantify impurities, such as heavy metals or organic contaminants, which can have detrimental effects on crop growth and soil health. The data analysis software provides real-time analysis, displaying the nutrient composition and impurity levels of the tested fertilizer samples. The machine can generate detailed reports, allowing farmers and fertilizer manufacturers to make informed decisions regarding the selection and application of fertilizers.

Compared to traditional methods of fertilizer quality testing, the Fertilizer Quality Testing Machine using IR spectroscopy offers several advantages, including reduced testing time, improved accuracy, and cost-efficiency. It eliminates the need for complex chemical analyses and minimizes sample preparation requirements.

The proposed machine has the potential to revolutionize fertilizer quality testing, enabling farmers to optimize nutrient management, improve crop yields, and minimize environmental impact. Future enhancements could include the integration of machine learning algorithms for automated identification of different fertilizer formulations and the development of portable, handheld devices for on-site analysis. Fertilizer quality testing, IR spectroscopy, nutrient analysis, impurity detection, agriculture, environmental sustainability.