

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014



A Project Work [21CSP76] Report On

“IOT Based Milk Quality Analyzer ”

Submitted in partial fulfilment of the requirements for the award of B.E. in Computer

Science and Engineering degree

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

GOVERNMENT ENGINEERING COLLEGE

B.M.ROAD, RAMANAGARA-562159

2024-2025

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CERTIFICATE

Certified that Project Work entitled **“IOT BASED MILK QUALITY ANALYZER”** carried out by **“CHITHRASHREE P [1GG21CS008], RAKSHITHA S [1GG21CS040], SANJANA [1GG21CS042], MEGHA ASHOK NAIK [1GG22CS403]”** Submitted in partial fulfilment of the requirements for the award of the degree of **PROJECT WORK [21CSP76]** with in **Computer Science and Engineering** of **Visvesvaraya Technological University, Belagavi** during the year 2024-2025. The Project report has been approved as it satisfies the academic requirements in respect to the Project Work prescribed for the **Bachelor of Engineering Degree**.

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DECLARATION

We hereby declare that the project report entitled “**IoT Based Milk Quality Analyzer**”, Submitted in partial fulfilment of the requirement for the award of the degree of **Bachelor of Engineering (B.E)** in **Computer Science and Engineering Department** is a record of bonafide project work carried on by us under the guidance of “**Mrs.HARSHARANI K S**” to **GOVERNMENT ENGINEERING COLLEGE RAMANAGARA, VISVESVARAYA TECHNOLOGICAL UNIVERSITY**. We further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree in this institute or any other institute or university.

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ACKNOWLEDGEMENT

We consider it a privilege to whole heartedly express my gratitude and respect to each and every one who guided and helped me in the successful completion of this Project Report.

We would greatly mention the enthusiastic influence provided by, **Mrs HARSHARANI K.S**, Assistant Professor, as our Project Guide , for her ideas and co-operation showed on us during our venture and for making this Project a great success

We would greatly mention the enthusiastic influence provided by, **Dr. SHABEEN TAJ G A**, Associate Professor, as our Project Guide and coordinator, for her ideas and co-operation showed on us during our venture and for making this Project a great success.

We are also thankful to **Dr. VASANTH G**, HOD, Department of Computer Science & Engineering, for his co-operation and encouragement at all moments of our approach.

We are very thankful to the principal **Dr. G PUNDARIKA** for being kind enough to providing us an opportunity to work on a Project in this institution.

We would also like to thank our parents and well-wishers as well as our classmates for their guidance and their kind co-operation.

Finally, it is our pleasure and happiness to the friendly co-operation showed by all the staff members of the Computer Science Department, GECR.

ABSTRACT

The exponential growth of technological innovations has paved the way for transformative solutions in agricultural and food safety domains. Milk, being a critical nutritional resource, requires sophisticated monitoring and quality assessment mechanisms to ensure consumer health and product integrity. This research presents a groundbreaking IoT enabled milk quality analysis system that revolutionizes traditional milk monitoring approaches through advanced technological interventions. The proposed system integrates multiple cutting-edge technologies, including Internet of Things (IoT) infrastructure, sophisticated sensor networks. By leveraging ESP32 microcontrollers, specialized sensors, and cloud- based data processing, the system creates a comprehensive, real-time milk quality monitoring ecosystem that transcends conventional quality assessment methodologies. Interdisciplinary in nature, the research bridges multiple technological domains, including sensor engineering, cloud computing, machine learning, and agricultural technology. This holistic approach showcases the transformative potential of integrated technological solutions in addressing complex real- world challenges. By democratizing advanced technological capabilities, the milk quality analysis system has far-reaching implications for small-scale dairy farmers, large agricultural enterprises, and food safety regulators, presenting a universal solution that can be adapted across diverse operational contexts.

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