VISVESVARAYA TECHNOLOGICALUNIVERSITY

"JnanaSangama"Belagavi– 590018

Mini Project Report on

"DETECTIONOFHEARTATTACKUSINGACETONE SIGNATURE"

Submittedinpartialfulfillmentoftherequirementsfortheawardofdegree

BACHELOROFENGINEERING
IN
ELECTRONICS&COMMUNICATIONENGINEERING

Submitted By

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CERTIFICATE

This is to certify that the following students,

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has submitted Project synopsis on **"DETECTION OF HEART ATTACK USING ACETONE SIGNATURE"** 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.

Mini Project Guide	Mini Project Coordinator	HOD
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ABSTRACT

Heart attacks, sometimes referred to as myocardial infarctions, are one of the major causes of death globally. This initiative investigates the use of breath sample acetone levels as a non-invasive diagnostic technique for heart attack early detection. Increased acetone levels offer a viable method for prompt detection since they may be indicative of metabolic alterations linked to myocardial infarction. This project's main goal is to create a trustworthy, non-invasive technique for identifying heart attacks by examining breath sample acetone signals. This approach aims to provide quick and affordable screening and monitoring by finding a relationship between breath acetone levels and the risk of a heart attack. The technology includes non-invasive breath sample collection and accurate acetone quantification through the use of sophisticated detection techniques including gas chromatography-mass spectrometry (GC-MS) and laser-based sensors.

Sophisticated algorithms will be used in data analysis to evaluate acetone levels and associate them with the risk of a heart attack. Creating a real-time breath collection device that is integrated with AI models to process and evaluate the data is part of the implementation phase. To verify the device's accuracy and efficacy, a variety of breath samples will be analyzed before clinical trials are conducted. The standardization of breath collecting techniques, sensor sensitivity, and specificity will all be guaranteed by ongoing improvement. Early diagnosis and intervention could be revolutionized if breath acetone signatures could be used to successfully detect heart attacks. It will be imperative to tackle issues like as sensor accuracy, individual baseline variances, and clinical validation. This strategy has the potential to greatly enhance patient outcomes by enabling early and non-invasive heart attack identification through cooperative research and technological improvements.