

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**“Jnana Sangama” Belagavi – 590 010**



**PROJECT REPORT ON**

**“HEART BEAT MONITORING AND DETECTION  
USING ARDUINO AND GSM”**

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

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

**Submitted By**

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**4AL14EC022  
4AL14EC030  
4AL14EC031  
4AL14EC045**

**Under the Guidance of  
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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING  
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

**MOODBIDRI – 574 225.**

**2017-2018**

# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI - 574 225

(Affiliated to VTU, BELAGAVI)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

## CERTIFICATE


Certified that the project work entitled "HEART BEAT MONITORING AND DETECTION USING ARDUINO AND GSM" is a bonafide work carried out by

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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 2017-2018. 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.

  
Signature of the Guide

Mr. Deepak Raj

  
Signature of the H.O.D  
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Signature with date

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## **ABSTRACT**

Health related issues and parameters are of utmost importance to man, and is essential to his existence and influence and thus he has sought for an improved system that would be able to capture and monitor the changes in health parameters irrespective of time and location so as to provide for measures that will forestall abnormalities and cater for emergencies. This work presents a system that is capable of providing real time remote monitoring of the heartbeat with improvements of an alarm and SMS alert. The proposed project aims at the design and implementation of a low cost but efficient and flexible heartbeat monitoring and alert system using GSM technology.

The proposed system proposes a continuous, real time, remote, safe and accurate monitoring of the heartbeat rate and helps in patient's diagnosis and early and preventive treatment of cardiovascular ailments. It is designed in such a way that the heartbeat/pulse rate is sensed and measured by the sensors which sends the signals to the control unit for proper processing and determination of the heartbeat rate which is displayed on an LCD, it then proceeds to alert by an alarm and SMS sent to the mobile phone of the medical expert or health personnel, if and only if the threshold value of the heartbeat rate is maximally exceeded. This project is of less cost, portable and implemented with open source hardware and software to ensure the continuous monitoring of heart beat and provide an alert to the doctor or a care taker.