VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

"DESIGN OF A SELF-HEALING MECHANISM FOR WIRELESS SENSOR NETWORKS"

Submitted in partial fulfillment for the award of Degree of,

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE &ENGINEERING

By

SANNIDHI P	**4AL16CS084**
SATHWIK R GUTTI	**4AL16CS086**
SHAMANTH M R	**4AL16CS088**
SAI CHARAN R	**4AL15CS081**

Under the Guidance of

Dr. MANJUNATH KOTARI

Professor and Head

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA 2019 – 2020

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI D.K. -574225, KARNATAKA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that the project entitled **" DESIGN OF A SELF-HEALING MECHANISM FOR WIRELESS SENSOR NETWORKS"** has been successfully completed by

SANNIDHI P	**4AL16CS084**
SATHWIK R GUTTI	**4AL16CS086**
SHAMANTH M R	**4AL16CS088**
SAI CHARAN R	**4AL15CS081**

the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2019–2020. 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.

Dr. Manjunath Kotari	**Dr. Manjunath Kotari**	**Dr. Peter Fernandes**
Project Guide	**Head of the department**	**Principal**

External Viva

Name of the Examiners	**Signature with Date**
1. Dr. Manjunath Kotari	
2. Vivek Sharma. S	Vivek Sharma

ABSTRACT

A sensor network consists of multiple detection stations called sensor nodes, each of which is small, lightweight and portable. Self-healing in Sensor Networks are increasingly becoming important. Especially in wireless sensor network, interference is anything which modifies, or disrupts a signal as it travels along a channel between a source and a receiver .Successful communication occurs in a wireless sensor network only in the absence of interference which is usually achieved by assigning non- interfering channels to the pairwise links (edges) that are necessary for good connectivity To overcome this, self-healing mechanism is used when the interference occurs, while communicating with each other. In this regard designing a self-healing routing mechanism for sensor networks, which restore connectivity after a node failure. This can be achieved by using the MATLAB tool for creating a base-level accessible, open-source, real- time ad-hoc routing scheme simulations, here we are targeting the ad-hoc on-demand distance vector (AODV) routing protocol.