

CERTIFICATE

**DEPARTMENT OF COMPUTER ENGINEERING
DR. D.Y. PATIL INSTITUTE OF ENGINEERING
AND TECHNOLOGY
PIMPRI, PUNE**

This is to certify that the thesis entitled

**Performance Analysis and Enhancement of Energy Optimized Topologies
in Wireless Sensor Network**

submitted by

Mrs. Manisha Sunil Bhende

is a record of bonafide work carried out by her, in partial fulfillment of the Doctor of Philosophy degree in Computer Engineering, at Savitribai Phule Pune University. The research work carried out by her is satisfactory.

Prof. (Dr.) Sanjeev J. Wagh

Research Guide , DYPIET

Prof. (Dr.) Rakesh K. Jain

Principal, DYPIET

Place : Pune

Date :

SAVITRIBAI PHULE PUNE UNIVERSITY

CERTIFICATE

This is to certify that Mrs. Manisha Sunil Bhende (Ph.D. candidate in Computer Engineering) was examined in thesis entitled **Performance Analysis and Enhancement of Energy Optimized Topologies in Wireless Sensor Network** on dated / / **2016**

At

DEPARTMENT OF COMPUTER ENGINEERING
DR. D.Y. PATIL INSTITUTE OF ENGINEERING AND TECHNOLOGY
PIMPRI, PUNE INDIA

2015-2016

Internal Examiner
Prof. (Dr.) Sanjeev J. Wagh

External Examiner
Prof. (Dr.)

Chairman
Prof. (Dr.)

CERTIFICATE OF THE GUIDE

Certified that the work incorporated in the thesis

Performance Analysis And Enhancement Of Energy Optimized Topologies In Wireless Sensor Network

Submitted by Mrs. Manisha Sunil Bhende was carried out by the candidate under my supervision/guidance. Such materials has been obtained from other sources has been duly acknowledge in the thesis.

Date :

Place: Pune

Signature of Research Guide

Prof. (Dr.) Sanjeev J. Wagh