

M S Ramaiah Institute of Technology

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MSR Nagar, Bengaluru-560054

A Dissertation Thesis on

**Analysis of Congestion with Varying Buffer Size to Improve  
QoS in Multipath Multihop WSN**

Submitted by

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**1MS14SCN04**

In partial fulfillment of the requirements for the award of degree of

Master of Technology

in

Computer Network Engineering

Under the guidance of

**Dr. MONICA R. MUNDADA**

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CERTIFICATE

This is to Certify that Mr. Desai Pranav Bharatbhai (1MS14SCN04) has completed Project Phase II (MCSE401) titled “Analysis of Congestion with Varying Buffer Size to Improve QoS in Multipath Multihop WSN” in partial fulfillment for the award of degree of Masters of Technology in Computer Network Engineering, during the year 2015-16 under the supervision of Dr. Monica R. Mundada, Associate Professor, Dept. of CSE MSRIT Bengaluru. The project is approved as it satisfies the academic requirements with respect to the project work prescribed for Master degree. To the best of our understanding the work submitted in this report has not been submitted in part or full, for the award said degree.

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- 1.
- 2.

## DECLARATION

I hereby declare that the dissertation work entitled “Analysis of Congestion with Varying Buffer Size to Improve QoS in Multipath Multihop WSN” in this report is carried out by me at M S Ramaiah Institute of Technology, Bengaluru under the guidance of Dr. Monica R. Mundada, Associate Professor, Dept. of CSE, MSRIT, Bengaluru for the partial fulfillment of the requirements for the award of the degree of Masters of Technology. I further declare that work reported in this project has not been submitted as the basis for the award of any degree or diploma or certificate in this institute or any other institute or university.

Date:

Desai Pranav Bharatbhai

Place: Bengaluru

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**Desai Pranav Bharatbhai**

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## **ABSTRACT**

In Wireless Sensor Networks (WSN), Quality of Service (QoS) plays a significant role as networks performance is dependent on QoS only. WSN is very popular as it has wide application range. WSN is more cost effective for monitoring the different aspects of environment and industries. WSN has inadequate resources such as computational power and energy constraint. Congestion is one critical subject which has drawn attention of many researchers. Congestion results into reduced network performance and also drains the battery of the node, which is a limited resource in WSN. So congestion must be reduced to improve QoS and lifespan of a network. In this project, we present an effective approach for improving congestion in wireless sensor networks. This proposed algorithm may reduce the congestion and gives an effective solution. It establishes multiple paths from each sensor node to the cluster head and passes it to a 'traffic node' that manages the congestion and then sends it to base station. Traffic Node is intermediate node between cluster head and base station.