"FITNESS-OPTIMIZED ENERGY EFFICIENT MULTIPATH ROUTING FOR MANETS"

A Dissertation submitted in partial fulfilment of the requirements for the award of degree of

MASTER OF COMPUTER APPLICATIONS

Of

Visvesvaraya Technological University

By

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CERTIFICATE

This is to Certify that **AYESHA SUHAIBA** bearing **USN: 4UB22MC016** has completed her 4th semester project worked title **"FITNESS-OPTIMIZED ENERGY EFFICIENT MULTIPATH ROUTING FOR MANETS "** as a partial fulfilment for the award of Master of Computer Applications degree, during the academic year 2023-24 under my supervision.

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DECLARATION

I, **AYESHA SUHAIBA ,** student of 4th semester MCA, **UNIVERSITY B.D.T COLLEGE OF ENGINEERING,** bearing USN: **4UB22MC016** hereby declare that the project entitled **"FITNESS-OPTIMIZED ENERGY EFFICIENT MULTIPATH ROUTING FOR MANETS"** has been carried out by me under the supervision of Internal Guide **Dr. SRINIVASULU M,** Asst. Prof, Dept. of MCA and submitted in partial fulfilment of the requirements for the award of the Degree of Master of Computer Applications by the **Visvesvaraya Technological University** during the academic year 2023-24. This report has not been submitted to any other University for any award of degree or certificate.

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ABSTRACT

A mobile network ad hoc, or MANET, consists of several wirelessly mobile nodes, which suddenly create a link that is not dependent on any infrastructure or centralized managements. One of a major drawback of MANETs is the consumptions of energy as mobiles node must rely on batteries for power because they lack a stable power source. This shortens the network's lifespan because batteries run out quickly whenever the nodes swiftly travel and relocate within the network. Through the use from the fitness functions approach to improve an energy consumptions within the ad hoc on Demand Multi path Distances Vectors (AOMDV) routings system, the study presented in this paper sheds light on this particular problem of energy use in MANET. FF-AOMDV, or Ad-Hoc On demand multipath Distance Vector with Function of fitness is the name of the suggested protocol. To ensure that minimize energy consumption during multipath routing, the function of fitness is utilized to determines used for determining the best route from a source to the destination. A two utmost widely suggested protocols in this field, AOMDV then ad hoc On Demands Multi path Routing by Life Maximization's (AOMR-LM), were compared with a performance of an propose FF-AOMDV protocols use a Network Simulator version-two(NS-2). By altering a node speeds, packets size, and replication time, Performance measures for consumption of energy, speed, delivery of packets ratio, end-to-end delay, network longevity, and routing-related overhead ratios were used to evaluated the comparisons. The outcomes unequivocally show that, for most of the functionalitys of networks metrics and parameters, the suggested FF-AOMDV outperformed AOMDV in its performance. and AOMR-LM.

CONTENTS

LIST OF FIGURES PAGE NO

- **LIST OF TABEL**