QUANTUM COMPUTING

Seminar Report

Submitted by

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CERTIFICATE

This is to certify that the Seminar entitled "***QUANTUM COMPUTING***" has been submitted by ***JERRIN JACOB, Reg No: 213242210536, Semester IV*** in partial fulfilment of the degree of Master of Computer Applications of Mahatma Gandhi University, Kottayam during the period of 2021-2023

Date:

Place**:**

Dr. Terry Jacob Mathew **Prof. Tiji Thomas**

Faculty Guide **HOD**

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ABSTRACT

Quantum computing is an emerging field that holds great promise for revolutionizing various aspects of computation. This seminar report provides an overview of quantum computing, including its principles, applications, and challenges. The report begins with a brief introduction to classical computing and its limitations, leading to the need for a new computational paradigm. It then delves into the fundamental principles of quantum mechanics that underpin quantum computing, such as superposition and entanglement. The main components of a quantum computer, such as qubits and quantum gates, are explained, along with their significance in quantum computation. Furthermore, the report discusses potential applications of quantum computing in various domains, such as cryptography, optimization, and simulation. The report also explores the challenges and limitations faced by quantum computing, including decoherence and error correction techniques. Finally, the seminar report concludes with an outlook on the future of quantum computing.