Contents

serial	Issue	Page
	Prelude	I
	Dedication	II
	Acknowledgements	III
	Abstract	IV
	المستخلص	V
	Contents	VI
	Chapter One: Introduction	
(1.1)	History of Macroscopic and Microscopic World	1
(1.2)	Research Problem	3
(1.3)	Literature Review	3
(1.4)	Aim of the Work	4
(1.5)	Presentation of the Thesis	4
	Chapter Two: Maxwell's Equations	
(2.1)	Introduction	5
(2.2)	Electric and Magnetic Field Intensity	5
(2.3)	Electromotive Force	6
(2.4)	Magnetic Field Flux across a Surface	6
(2.5)	Faraday's Induction Law	8
(2.6)	Maxwell's Equations	9
(2.7)	Electromagnetic Potentials	13
(2.8)	Magnetomotive Force	13
	Chapter Three: Schrödinger and Klein-Gordon Equations	
(3.1)	Introduction	17
(3.2)	Derivation of Schrödinger Equation	18
(3.3)	Derivation of Klein-Gordon Equation	19

	Chapter Four: Literature Review	
(4.1)	Introduction	23
(4.2)	Derivation of Schrödinger Equation from Variational Principle	23
(4.3)	Derivation of Klein-Gordon Equation from Maxwell's Electric Wave Equation	28
(4.4)	Direct Derivation of Schrödinger Equation from Hamiltonian-Jacobi Equation Using Uncertainty Principle	32
(4.5)	Derivation of Schrödinger Equation from Maxwell's Solution of Electric Field Intensity	35
(4.6)	Summary and Critique	36
	Chapter Five: Unification of Macroscopic and Microscopic World on the Basis of Maxwell's and Quantum Equations	
(5.1)	Introduction	38
(5.2)	Maxwell's Electric Wave Equation	38
(5.3)	Derivation of Klein-Gordon Equation from Maxwell's Equation for a Massive Photon	42
(5.4)	Derivation of Schrödinger Equation from Maxwell's Equations	43
(5.5)	The Electric Polarization and Special Relativity	49
(5.6)	New Generalized Quantum Equation	52
(5.7)	Discussion	54
(5.8)	Conclusion	57
(5.9)	References	58