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FINAL REPORT OF DIPLOMA PROJECT

DIY HYDROPONICS SYSTEM BY USING RENEWABLE ENERGY

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“I declare that this report entitled “*DIY Hydroponics System By Using Renewable Energy*” is the result of my own group research except as cited in the references. The report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.”

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ABSTRACT

This hydroponic project describes the development of hydroponic system by using solar panel to control the water pump, solenoid valve and cooling fan. It involves a combination of electrical, electronics and agriculture into one sustainable system which consists of a solar panel, solar charge controller, temperature sensor (thermistor) and water level sensor (pump and valve). Since this project is being conducted in East Cost's area, so total voltage of one solar panel may absorbs is 10 to 11V DC. To solve this inadequate amount of voltage, solar panels 18V DC is used. The voltage depends on light capture by solar panel. Weather can minimize the light capture by solar panel thus affect the overall performance. NE555 ICs are used to control the operation of hydroponic system for water level sensor (high and low), and also op amp IC741 is used to sense temperature surrounding in hydroponic system for cooling process.

TABLE OF CONTENTS

CHAPTER	CONTENTS	PAGE
	DECLARATION	i
	DEDICATION	ii
	ACKNOWLEDGEMENTS	v
	ABSTRACT	vi
	ABSTRAK	vii
	TABLE OF CONTENTS	viii
	LIST OF TABLES	vii
	LIST OF FIGURES	iv
	LIST OF SYMBOLS	vi
	LIST OF ABBREVIATIONS	vii
	LIST OF APPENDICES	Viii
1	INTRODUCTION	
	1.0 Introduction	1
	1.1 Problem Statement	2
	1.2 Objectives	3
	1.3 Scope of Project	3
2	LITERATURE REVIEW	
	2.0 Background Of Invention	5
	2.1 List of Components	5
	2.1.1 NE555 (Timer IC)	5
	2.1.2 Op amp IC 741	6