

CONSTRUCTION OF A ELECTRONIC MOSQUITO REPELLANT

BY

AJALA OMOLAYO BAYONLE 2022232070056

AJAYI OLAMILEKAN OLUWAFEMI 2022232070006

AFOLABI JOSHUA AYOMIKUN 2022232070079

AJIGBOTOSHO ANIFAT TITILOPE 2022232070083

**A PROJECT SUBMITTED TO THE DEPARTMENT OF COMPUTER
ENGINEERING TECHNOLOGY, FACULTY OF ENGINEERING,
THE POLYTECHNIC IBADAN**

**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD
OF NATIONAL DIPLOMA (ND) IN COMPUTER ENGINEERING
TECHNOLOGY**

JUNE, 2024

CERTIFICATION

I certify that the project “Construction of an Electronic Mosquito Repellent circuit” was carried out by the below stated names with the below stated Matriculation Number it has been thoroughly and duly read under the supervision and guidance of **Engineer Oluleye.O.Akanji** and has been found of acceptance by the Department of Computer Engineering for the award of National Diploma (ND).

AJALA OMOLAYO BAYONLE	2022232070056
AJAYI OLAMILEKAN OLUWAFEMI	2022232070006
AFOLABI JOSHUA AYOMIKUN	2022232070079
AJIGBOTOSHO ANIFAT TITILOPE	2022232070083

Engineer Oluleye.O.Akanji

.....

Project Supervisor

Signature / Date

Engineer D.A. Oladosu

.....

Head of Department

Signature/Date

DEDICATION

This project is dedicated to God Almighty, He forever be our help, all through this project and for giving us the grace, health and wisdom to learn during our National Diploma. We also dedicate this work to our beloved friends and colleges.

ACKNOWLEDEMENTS

Our profound gratitude to Almighty God for the knowledge, wisdom and understanding that he bestowed on us to carry out this project without which this project would not have been possible. We would also like to acknowledge the support everyone for pushing us to challenge ourselves the more in engineering and the directions given to us during the design and research of this project.

ABSTRACT

This work is titled design and construction of an electronic mosquito repellent device. Mosquito repellents like coils, mats, liquid vaporizers and creams are often used at various places. However, they are prone to be fatal and can cause harm to human beings. For instance, mosquito repellent creams and candles can cause adverse effects on the skin like allergic reactions. Coils, mats can produce toxic fumes when heated and cause breathing trouble whereas liquid vaporizers can also produce fumes when heated. For efficient result without any side effects, the most optimum solution is constructing a simple electronic device with minimal components which can produce output so as to repel the mosquitoes.

The aim of this work is to design a simple electronic device which can produce ultrasound in the frequency range of 20kHz to 38kHz, which can scare away mosquitoes.

TABLE OF CONTENT

Title page	i
Certification	ii
Dedication	iii
Acknowledgement	iv
Table of content	v
List of Figures	vii

CHAPTER ONE

1.0	Introduction	1
1.1	Background to the study	1
1.2	Statement of the problems	2
1.3	Aim and Objectives	2
1.4	Scope of Study	3
1.5	Significant of the study	3

CHAPTER TWO: LITERATURE REVIEW

2.0	Existing Literatures	5
2.1	Related Works	6
2.2	Previous Mosquito Repellent Circuits	7

CHAPTER THREE: METHODOLOGY

3.0	Methodology	9
3.1	Introduction	9
3.2	Operation of System	9
3.3	Electrical Wiring Prototype	11
3.4	Hardware Components	12
3.5	Circuit Design	17
3.6	Circuit Operation	17

CHAPTER FOUR: RESULT AND DISCUSSION

4.0	Introduction	18
4.1	Results	20

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATION

5.1	Introduction	22
5.2	Recommendation	23

REFERENCE	24
------------------	----

LIST OF FIGURES

Fig 3.0	Block Diagram of Mosquito Repellant Circuit	10
Fig 3.1	Mosquito Repellant Circuit Diagram	11
Fig 3.2	Breadboard Prototype of Mosquito Repellant Circuit	12
Fig 3.3	Image of Buzzer	13
Fig 3.4	Image of a Resistor	14
Fig 3.5	Image of a Capacitor	14
Fig 3.6	Lithium Ion Battery	15
Fig 3.7	Arduino nano	15
Fig 4.0	Image of Prototype of Mosquito Repellant Design	19
Fig 4.1	Cathode Ray Oscilloscope reading	19