



# Holy Cross College (Autonomous) Nagercoil – 629 004

Affiliated to Manonmaniam Sundaranar University, Tirunelveli  
Nationally Accredited with A+ Grade (CGPA 3.35) by NAAC IV Cycle  
An ISO 9001:2015 Certified Institution

SSR  
2019-2020  
to  
2023-2024

## Project Report

### DEPARTMENT OF MATHEMATICS

#### A STUDY ON RANDIC ENERGY OF A GRAPH

Project report submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial fulfillment of  
the requirement for the award of the degree of  
**Master of Science in Mathematics**

Submitted by

**AKSHA.C**

Reg.No: 2022APM295

Under the Guidance of

**Dr. S.SUJITHA, M.Sc., M.Phil., B.Ed.,Ph.D.,**



DEPARTMENT OF MATHEMATICS  
HOLY CROSS COLLEGE(AUTONOMOUS)  
ACCREDITED WITH A+ GRADE (CGPA3.35-IV CYCLE)BY NAAC  
AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY,TIRUNELVELI  
NAGERCOIL – 629 004  
OCTOBER – 2023

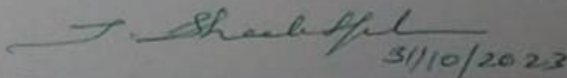
Dr. S. SUJITHA, M.Sc., M.Phil., B.Ed., Ph.D.,  
Assistant Professor ,  
Department of Mathematics,  
Holy Cross College (Autonomous),  
Nagercoil.

### CERTIFICATE

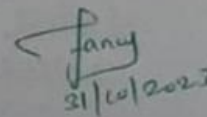
This is to certify that the project work entitled '**A STUDY ON RANDIC ENERGY OF A GRAPH**' submitted to the Department of Mathematics, Holy Cross College(Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirements for the award of the degree of **Master of Science in Mathematics** is a record of the bonafide work done by **AKSHA.C** (Reg. No: 2022APM295) of II M .Sc. Mathematics, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-24 under my guidance and supervision.

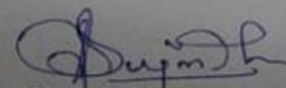
Place: Nagercoil

Date: 31-10-2023

  
31/10/2023  
HEAD OF THE DEPARTMENT

**Head**  
**Department of Mathematics**  
**Holy Cross College**  
**NAGERCOIL**

  
31/10/2023

  
SUPERVISOR

**Dr. S. SUJITHA, M.Sc., B.Ed., M.Phil., Ph.D.**  
Assistant Professor,  
Department of Mathematics  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

## DECLARATION

Hereby I declare that this project work entitled 'A STUDY ON RANDIC ENERGY OF A GRAPH' submitted by me for the degree of Master of Science in Mathematics is the result of my original and independent research work carried out under the guidance of Dr. S. SUJITHA, Assistant professor, Department of Mathematics, Holy Cross College (Autonomous) and it has not been submitted elsewhere for the award of any degree, diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31-10-2023

*Aksha.C.*  
AKSHA.C

## ACKNOWLEDGEMENT

First and foremost, I glorify the Almighty God for his blessings, grace, wisdom, knowledge and guidance showered throughout my work.

I thank our college Secretary **Dr. Sr. M. Mary Gilda**, Principal **Dr. Sr. S. Sahayaselvi**, Vice Principals **Dr. Sr. P. Leema Rose**, **Dr. P. Sathya**, Controller of Examinations **Dr. J. Vinoliya Josephine Mary**, Assistant Controller of Examinations **Dr. S. Regi** and our Librarian **Dr. V. Jeya Kala** for allowing me to utilize the facilities of the college for the project work and also for their well wishes.

I convey my sincere thanks to our Head of the Department, **Dr. T. Sheeba Helen**, **M.Sc., M.Phil., B.Ed., Ph.D**, for motivating me to carry out this project effectively.

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I also wish to express my heartfelt thanks to all other faculty members of the **Department of Mathematics, Holy Cross College(Autonomous), Nagercoil** who gave their valuable suggestions in developing my project.

Finally, I also thank my parents for their timely help. Also I thank my friends and well-wishers who helped me during the course of this project work.



**AN ANALYSIS ON TRAFFIC FLOW USING FUZZY  
AND STATISTICAL TOOLS**

Project report submitted to Holy Cross College (Autonomous), Nagercoil  
affiliated to Manonmaniam Sundaranar University in partial fulfillment of the  
requirement for the award of the degree of

**Master of Science in Mathematics**

submitted by

**AKSHAYA HARI S.U.**

Reg.No: 2022APM296

Under the Guidance of

**Dr. J. BEFIJA MINNIE, M.Sc., M.Phil., B.Ed., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF MATHEMATICS**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**ACCREDITED WITH A+ GRADE (CGPA3.35-IV CYCLE) BY NAAC**

**AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI**

**NAGERCOIL – 629 004**

**OCTOBER – 2023**

Dr. J. BEFIJA MINNIE, M.Sc., M.Phil., B.Ed., Ph.D.,  
Assistant Professor,  
PG & Research Department of  
Mathematics,  
Holy Cross College (Autonomous),  
Nagercoil.

**CERTIFICATE**

This is to certify that the project work entitled "AN ANALYSIS ON TRAFFIC FLOW USING FUZZY AND STATISTICAL TOOLS" submitted to the Department of Mathematics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirements for the award of the degree of **Master of Science in Mathematics** is a record of the bonafide work done by **AKSHAYA HARI S.U.** (Reg. No: 2022APM296) of II M.Sc. Mathematics, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-24 under my guidance and supervision.

Place: Nagercoil

Date: 31/10/2023

*J. Befija Minnie*  
31/10/2023

*J. Sheela*  
31/10/2023  
HEAD OF THE DEPARTMENT

**Head**  
Department of Mathematics  
Holy Cross College  
NAGERCOIL

*J. Befija Minnie*  
SUPERVISOR

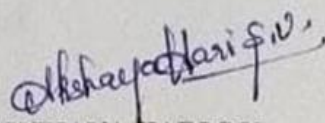
**Dr. J. BEFIJA MINNIE**  
Assistant Professor  
Department of Mathematics  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

## DECLARATION

Hereby I declare that this project work entitled "AN ANALYSIS ON TRAFFIC FLOW USING FUZZY AND STATISTICAL TOOLS" submitted by me for the degree of **Master of Science in Mathematics** is the result of my original and independent research work carried out under the guidance of **Dr. J. BEFLJA MINNIE**, Assistant professor, PG & Research Department of Mathematics, Holy Cross College (Autonomous) and it has not been submitted elsewhere for the award of any degree, diploma, associateship or fellowship of any University or Institution.

Place : Nagercoil

Date: 31/10/2023

  
AKSHAYA HARI S.U.

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First and foremost, I glorify the Almighty God for his blessings, grace, wisdom, knowledge and guidance showered throughout my work.

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Finally, I also thank my parents for their timely help. Also I thank my friends and well-wishers who helped me during the course of this project work.



## ABSTRACT

I deem it my great pleasure and privilege to present my postgraduate project on the topic '**AN ANALYSIS ON TRAFFIC FLOW USING FUZZY AND STATISTICAL TOOLS**'.

Fuzzy logic, introduced by Lotfi A. Zadeh in the mid-1960s, laid the foundation for fuzzy matrices. Fuzzy logic aimed to deal with vague or imprecise information by introducing the concept of "fuzzy sets," where elements have degrees of membership between 0 and 1. Fuzzy matrices found applications in various fields, including decision-making, pattern recognition, and control systems. Researchers continue to develop new methods and applications for fuzzy matrices, integrating them with other mathematical and computational techniques.

In this project, an attempt was made to analyse the traffic flow data using fuzzy and statistical tools. This project has five different chapters

1. Preliminaries
2. Analysis of Traffic flow
3. Analysis by Fuzzy Tool
4. Analysis by Statistical Tools
5. Results and discussion

In the first chapter, there are basic definitions and results of fuzzy matrices and statistical methods. In the second chapter, the study is about the analysis of traffic flow. The third chapter has the analysis of the fuzzy tool, CETD matrix. In the fourth chapter, the analysis is by statistical tools, paired sample t-test and two sample t-test. In the fifth chapter, the results are discussed and a comparative study has been given. At the end of the study a brief conclusion has been given.

# **AN ANALYSIS ON BREAST CANCER USING FUZZY AND STATISTICAL TOOLS**

Project report submitted to Holy Cross College (Autonomous), Nagercoil  
affiliated to Manonmaniam Sundaranar University in partial fulfillment of the  
requirement for the award of the degree of  
**Master of Science in Mathematics**

Submitted by

**ASHMI ADIYA V.H.**

Reg.No: 2022APM297

Under the Guidance of

**Dr. J.BEFIJA MINNIE, M.Sc., M.Phil., B.Ed., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF MATHEMATICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
ACCREDITED WITH A+ GRADE (CGPA 3.35 - IV CYCLE) BY NAAC  
AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI  
NAGERCOIL - 629 004  
OCTOBER-2023**

**Dr. J.BEFIJA MINNIE, M.Sc., M.Phil., B.Ed., Ph.D.,**  
Assistant Professor,  
PG & Research Department of Mathematics,  
Holy Cross College (Autonomous),  
Nagercoil.

### CERTIFICATE

This is to certify that the project work entitled “AN ANALYSIS ON BREAST CANCER USING FUZZY AND STATISTICAL TOOLS” submitted to the Department of Mathematics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirements for the award of the degree of **Master of Science in Mathematics** is a record of the bonafide work done by **ASHMI ADIYA V.H.** (Reg. No: 2022APM297) of II M.Sc. Mathematics, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-24 under my guidance and supervision.

Place: Nagercoil

Date: 31-10-2023

*J. Befija Minnie*  
31/10/2023

*J. Befija Minnie*  
31/10/2023

**HEAD OF THE DEPARTMENT**

**Head**  
**Department of Mathematics**  
**Holy Cross College**  
**NAGERCOIL**

*J. Befija Minnie*  
**SUPERVISOR**

**Dr. J. BEFIJA MINNIE**  
Assistant Professor  
Department of Mathematics  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

## DECLARATION

Hereby I declare that this project work entitled “AN ANALYSIS ON BREAST CANCER USING FUZZY AND STATISTICAL TOOLS” submitted by me for the degree of **Master of Science in Mathematics** is the result of my original and independent research work carried out under the guidance of **Dr. J. BEFLJA MINNIE**, Assistant professor, PG & Research Department of Mathematics, Holy Cross College (Autonomous) and it has not been submitted elsewhere for the award of any degree, diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31-10-2023



**ASHMI ADIYA V.H.**

## ACKNOWLEDGEMENT

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I thank our college Secretary **Dr. Sr. M. Mary Gilda**, Principal **Dr. Sr. S. Sahayaselvi**, Vice Principals **Dr. Sr. P. Leema Rose**, **Dr. P. Sathya**, Controller of Examinations **Dr. J. Vinoliya Josephine Mary**, Assistant Controller of Examinations **Dr. S. Regi** and our Librarian **Dr. V. Jeya Kala** for allowing me to utilize the facilities of the college for the project work and also for their well wishes.

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## ABSTRACT

I deem it my great pleasure and privilege to present my postgraduate project on the topic **“AN ANALYSIS ON BREAST CANCER USING FUZZY AND STATISTICAL TOOLS”**.

Fuzzy logic, introduced by Lotfi A. Zadeh in the mid-1960s, laid the foundation for fuzzy matrices. Fuzzy logic aimed to deal with vague or imprecise information by introducing the concept of "fuzzy sets," where elements have degrees of membership between 0 and 1. Fuzzy matrices found applications in various fields, including decision-making, pattern recognition, and control systems. Researchers continue to develop new methods and applications for fuzzy matrices, integrating them with other mathematical and computational techniques.

In this project, an attempt was made to analyse the breast cancer data using Fuzzy and Statistical Tools. This project has five different chapters

1. Preliminaries
2. Analysis of Breast cancer
3. Analysis by Fuzzy Tool
4. Analysis by Statistical Tools
5. Results and discussion

In the first chapter, there are basic definitions and results of Fuzzy matrices and statistical methods. In the second chapter, the study is about the analysis of breast cancer. The third chapter has the analysis of the fuzzy tool, CETD matrix. In the fourth chapter, the analysis is by statistical tools, paired sample t -test and two sample t-test. In the fifth chapter, the results are discussed and a comparative study has been given. At the end of the study a brief conclusion has been given.

**A STUDY ON DOM-CHROMATIC SETS IN GRAPHS**

A dissertation submitted to Holy Cross College (Autonomous), Nagercoil-4  
affiliated to Manonmaniam Sundaranar University in partial fulfilment of the  
requirements for the award of the degree of  
**Master of Science in Mathematics**

submitted by

**BENITTA T M**

Reg.No : 2022APM298

Under the Guidance of

**Dr. M.K. ANGEL JEBITHA, M.Sc., M.Phil., B.Ed., Ph.D.,**



**PG & RESEARCH DEPARTMENT OF MATHEMATICS**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**(ACCREDITED WITH A<sup>+</sup> GRADE (CGPA 3.35 – IV CYCLE) BY NAAC)**

**(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI)**

**NAGERCOIL – 629 004**

**OCTOBER 2023**



Dr. M. K. ANGEL JEBITHA, M.Sc., M.Phil., B.Ed., Ph.D.,  
Assistant Professor,  
PG & Research Department of Mathematics,  
Holy Cross College (Autonomous),  
Nagercoil - 629 004.

**CERTIFICATE**

This is to certify that the dissertation work entitled "A STUDY ON DOM-CHROMATIC SETS IN GRAPHS" submitted to the Department of Mathematics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirements for the award of the degree of Master of Science in Mathematics is a record of the bonafide work done by BENITTA T M (Reg. No: 2022APM298) of II M.Sc. Mathematics, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-24 under my guidance and supervision.

Place : Nagercoil

Date : 31-10-2023

*[Handwritten signature]*  
31/10/2023

*[Handwritten signature]*  
31/10/2023  
Head of the Department

**Head**  
**Department of Mathematics**  
**Holy Cross College**  
**NAGERCOIL**

*[Handwritten signature]*  
SUPERVISOR 31/10/20

**Dr. M.K. ANGEL JEBITHA,**  
**M.Sc., M.Phil., B.Ed., Ph.D.,**  
**Assistant Professor,**  
**Department of Mathematics**  
**Holy Cross College (Autonomous)**  
**Nagercoil - 629 004.**



## DECLARATION

Hereby I declare that this dissertation work entitled “**A STUDY ON DOM-CHROMATIC SETS IN GRAPHS**” submitted by me for the degree of **Master of Science in Mathematics** is the result of my original and independent research work carried out under the guidance of **Dr. M.K. ANGEL JEBITHA**, Assistant professor, PG & Research Department of Mathematics, Holy Cross College (Autonomous) and it has not been submitted elsewhere for the award of any degree, diploma, associateship or fellowship of any University or Institution.

Place : Nagercoil

Date: 31.10.2023

T.M. Benitta

**BENITTA T M**

## ACKNOWLEDGEMENT

First and foremost, we glorify the Almighty God for his blessings, grace, wisdom, knowledge and guidance showered throughout our work.

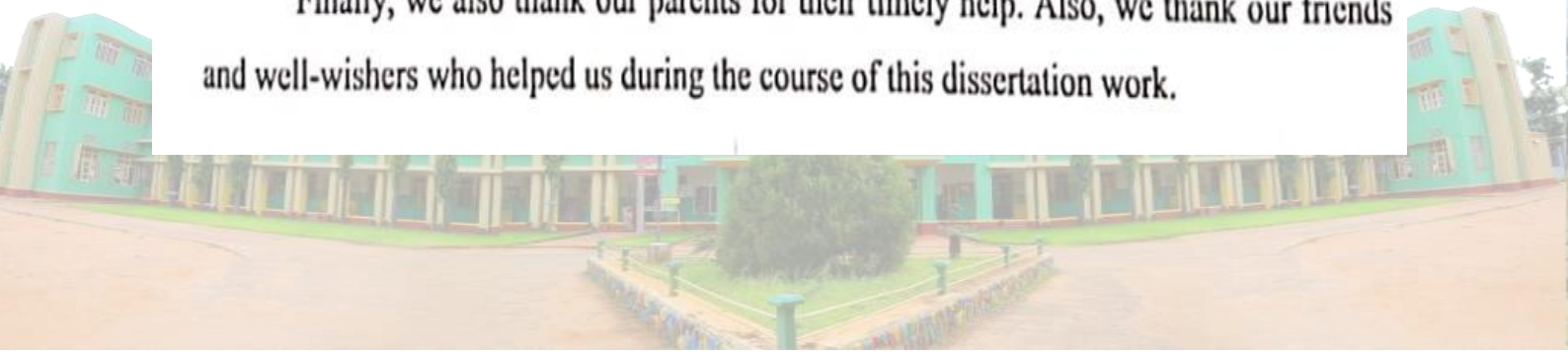
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We also wish to express our heartfelt thanks to all other faculty members of the **PG & Research Department of Mathematics, Holy Cross College (Autonomous), Nagercoil** who gave their valuable suggestions in developing our dissertation.

Finally, we also thank our parents for their timely help. Also, we thank our friends and well-wishers who helped us during the course of this dissertation work.



## **A STUDY ON CORDIAL LABELING**

Project report submitted to Holy Cross College (Autonomous), Nagercoil  
affiliated to Manonmaniam Sundaranar University in partial fulfillment of the  
requirement for the award of the degree of

### **Master of Science in Mathematics**

Submitted by

**BERLIN BABISHA B**

Reg. No: 2022APM299

Under the Guidance of

**Dr. V. SUJIN FLOWER, M.Sc., M.Phil., Ph.D.,**

Assistant Professor of Mathematics



**DEPARTMENT OF MATHEMATICS**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**ACCREDITED WITH A+ GRADE (CGPA 3.35 - IV CYCLE) BY NAAC**

**AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI**

**NAGERCOIL – 629 004**

**OCTOBER – 2023**

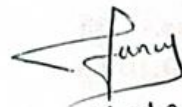
**Dr. V. SUJIN FLOWER, M.Sc., M.Phil., Ph.D.,**  
Assistant Professor,  
Department of Mathematics,  
Holy Cross College (Autonomous),  
Nagercoil.

### CERTIFICATE

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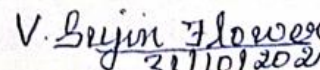
Place: Nagercoil

Date: 31-10-2023

  
31/10/2023

  
21/10/2023  
**HEAD OF THE DEPARTMENT**

**Head**  
**Department of Mathematics**  
**Holy Cross College**  
**NAGERCOIL**

  
31/10/2023  
**SUPERVISOR**

**Dr. V. SUJIN FLOWER, M.Sc., M.Phil., Ph.D.,**  
**Assistant Professor**  
**Department of Mathematics**  
**Holy Cross College (Autonomous)**  
**Nagercoil - 629 004**

## DECLARATION

Hereby I declare that this project work entitled '**A STUDY ON CORDIAL LABELING**' submitted by me for the degree of **Master of Science in Mathematics** is the result of my original and independent research work carried out under the guidance of **Dr. V. SUJIN FLOWER**, Assistant professor, Department of Mathematics, Holy Cross College (Autonomous) and it has not been submitted elsewhere for the award of any degree, diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31-10-2023

B. Berlin Babisha  
**BERLIN BABISHA B**

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DEPARTMENT OF MATHEMATICS (S.F)

**STUDY ON DERIVATION OF ORDERED  $\Gamma$ -SEMI-RINGS**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial fulfillment of  
the requirement of the award of the degree of*

**MASTER OF SCIENCE IN MATHEMATICS**

*Submitted by*

**R. NOBLE FEMINE (Reg. No. 2022SPM135)**

*Under the guidance of*

**Dr. C. JENILA, M.Sc., B.Ed., M.Phil., Ph.D.,**

*Assistant Professor of Mathematics*



**DEPARTMENT OF MATHEMATICS (SELF-FINANCED)-  
HOLY CROSS COLLEGE (AUTONOMOUS)  
ACCREDITED WITH A+ GRADE (CGPA 3.35) by NAAC (IV CYCLE)**

**NAGERCOIL-629 004**

**OCTOBER-2023**

## CERTIFICATE

This is to certify that the dissertation entitled "STUDY ON DERIVATION OF ORDERED  $\Gamma$ -SEMRINGS" submitted by the candidate R. Noble Femine (Reg. No. 2022SPM135) to the Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University, Tirunelveli. For the award of the degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the project work done by her under my supervision and guidance.

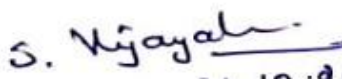
Also certified that this dissertation has not previously formed the basis for the award of any degree, diploma or any other similar title from the same university of any other institution.

Place: Nagercoil


Date: 26-10-2023

  
26/10/2023  
Dr.C. Jenila

(Guide and Supervisor)

  
31.10.2023

External Examiner

  
Head of the Department  
Department of Mathematics (SF)  
Department of Mathematics (S.F.)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.



## DECLARATION

We hereby declare that this dissertation entitled "**STUDY ON DERIVATION OF ORDERED  $\Gamma$  – SEMIRINGS**" is being submitted to Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the requirement for the award of the degree of "**MASTER OF SCIENCE IN MATHEMATICS**" is a record of the dissertation done by us during our period of study under the supervision and guidance of **Dr. C. Jenila, M.Sc., B.Ed., M.Phil., Ph.D.**, Assistant Professor, Department of Mathematics (Self-Financed), Holy Cross College (Autonomous), Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

**Place:** Nagercoil

**Date:** 26-10-2023

R. Noble Femine  
R. NOBLE FEMINE



# **A STUDY ON PAIR SUM LABELING AND CRYPTOGRAPHY**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirement of the award of the degree of*

## **MASTER OF SCIENCE IN MATHEMATICS**

Submitted by

**T. ARTHI (Reg. No.: 2022SPM134)**

Under the Guidance of

**Dr. S. KAVITHA, M.Sc., M.Phil., SET., Ph.D.**



**DEPARTMENT OF MATHEMATICS (SELF – FINANCED)**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**RE – ACCREDITED WITH A<sup>+</sup> GRADE (CGPA 3.35)**

**(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)**

**NAGERCOIL – 629 004**

**OCTOBER - 2023**

## CERTIFICATE

This is to certify that the dissertation entitled “**A STUDY ON PAIR SUM LABELING AND CRYPTOGRAPHY**” Submitted by the candidate **T. ARTHI (Reg. No. 2022SPM134)** to the Holy Cross College (Autonomous) affiliated to Manonmaniam Sundaranar University, Tirunelveli for the award of M.Sc. Degree in Mathematics is a bonafide record of Project work done by them under our guidance.

Also certified that this dissertation has not previously formed the basis for the award of any degree, diploma or any other similar title from the same university or any other institution.

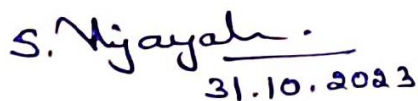


**Dr. S. KAVITHA**

(Guide and Supervisor)

Place: Nagercoil

Date: 26-10-2023



31.10.2023

External Examiner



Head of the Department

Department of Mathematics (SF)

**Department of Mathematics (S.F.),  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.**



## DECLARATION

I hereby declare that the dissertation entitled “**A STUDY ON PAIR SUM LABELING AND CRYPTOGRAPHY**” is being submitted to the Holy Cross College (Autonomous) Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement of the award of the degree of **MASTER OF SCIENCE IN MATHEMATICS** is the record of the dissertation done by us our period of study under the supervision and guidance of **Dr. S. KAVITHA, M.Sc., M.Phil., SET, Ph.D.** Head of the Department of Mathematics (Self – Financed), Holy Cross College (Autonomous), Nagercoil. This dissertation on any part has not been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 26-10-2023

*T. Arthi*  
T. ARTHI

**A STUDY ON ALGEBRAIC STRUCTURES OF MULTI FUZZY SUBGROUP**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial fulfillment of  
the requirement of the award of the degree of*

**MASTER OF SCIENCE IN MATHEMATICS**

*Submitted by*

**REHNA C S (Reg No. 2022SPM 136)**

*Under the guidance of*

**Dr. P.C.Priyanka Nair, M.Sc., B.Ed., M.Phil, Ph.D.**



**DEPARTMENT OF MATHEMATICS (SELF-FINANCED)**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**RE - ACCREDITED WITH A+ GRADE (CGPA 3.35)**

**(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)**

**NAGERCOIL-629 004**

**OCTOBER-2023**

## CERTIFICATE

This is to certify that the dissertation entitled **“A STUDY ON ALGEBRAIC STRUCTURES OF MULTI – FUZZY SUBGROUP”** submitted by the candidate **REHNA C S (Reg No: 2022SPM136)**, to the Holy Cross College (Autonomous) affiliated to Manonmaniam Sundaranar University, Tirunelveli for the award of M.Sc Degree in Mathematics is a bonafide record of the project work done under my guidance.

Also certified that this dissertation has not previously formed the basis for the award of any degree, diploma or any other similar title form the same university or any other institution.



Dr. P. C. Priyanka Nair

(Guide and Supervisor)

Place: Nagercoil

Date: 26-10-2023

S. Vijayalaxmi  
31.10.2023

External Examiner



Head of the Department

Department of Mathematics (S.F)  
Department of Mathematics (S.F.)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.

## DECLARATION

I hereby declare that this dissertation entitled **“A STUDY ON ALGEBRAIC STRUCTURES OF MULTI – FUZZY SUBGROUP ”** is being submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment of the requirement for the award of the degree of **MASTER OF SCIENCE IN MATHEMATICS** is a record of the dissertation done by us our period of study under the supervision and guidance of **Dr. P.C Priyanka Nair, M.Sc., B. Ed., M.Phil,Ph.d.**, Assistant professor, Department of Mathematics (SELF FINANCED) , Holy cross College (Autonomous), Nagercoil. This dissertation or any apart has not been submitted elsewhere for any other degree.

Place: Nagercoil

  
REHNA C S

Date: 26-10-2023

**A STUDY ON CONNECTED EDGE GEODETIC NUMBER OF A GRAPH**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial fulfillment of  
the requirement of the award of the degree of*

**MASTER OF SCIENCE IN MATHEMATICS**

*Submitted by*

**H. VANA ARCHANA (Reg No. 2022SPM138)**

*Under the guidance of*

**Dr. J. NESA GOLDEN FLOWER, M.Sc., B.Ed., M.Phil., Ph.D.**

**Assistant Professor of Mathematics**



**DEPARTMENT OF MATHEMATICS (SELF-FINANCED)**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**ACCREDITED WITH A+ GRADE (CGPA 3.35) by NAAC (IV CYCLE)**

**(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)**

**NAGERCOIL-629 004**

**OCTOBER-2023**



**CERTIFICATE**

This is to certify that the dissertation entitled "A STUDY ON CONNECTED EDGE GEODETIC NUMBER OF A GRAPH " submitted by the candidate **H. VANA ARCHANA (Reg No. 2022SPM138)** to the Holy Cross College for the award of M.Sc Degree is a bonafide record of the Project work done by her under our guidance.

Also certified that this dissertation has not previously formed the basis for the award of any degree, diploma or any other similar title from the same university or any other institution.

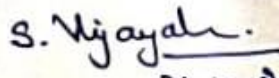
Place: Nagercoil


Date: 26/10/2023

  
Dr. J. NESA GLODEN FLOWER,

M.Sc., B.Ed., M.Phil., Ph.D.

(Guide and Supervisor)

  
31.10.2023  
External Examiner

  
Head of the Department  
Department of Mathematics (S.F.)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.

## DECLARATION

I hereby declare that this dissertation entitled "**A STUDY ON CONNECTED EDGE GEODETIC NUMBER OF A GRAPH**" submitted by me for the Degree of "**MASTER OF SCIENCE IN MATHEMATICS**" is a record of the dissertation done by me under the guidance of **Dr. J. NESAGOLDEN FLOWER, M.Sc., B.Ed., M.Phil., Ph.D.** Assistant Professor, Department of Mathematics (Self-Financed), Holy Cross College (Autonomous), Nagercoil. This dissertation on any part has not been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 26/10/2023

H. Vana Archana  
H.VANA ARCHANA

**A STUDY ON DETOUR CONCEPTS IN GRAPHS**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial fulfillment of  
the requirement of the award of the degree of*

**MASTER OF SCIENCE IN MATHEMATICS**

*Submitted by*

**S. REJISMA (Reg.No.2022SPM137)**

*Under the guidance of*

**Dr. J. NESAGOLDEN FLOWER, M.Sc., B.Ed., M.Phil., Ph.D.**

*Assistant Professor of Mathematics*



**DEPARTMENT OF MATHEMATICS (SELF-FINANCED)**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**RE - ACCREDITED WITH A+ GRADE (CGPA 3.35) by NAAC (IV CYCLE)**

**(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)**

**NAGERCOIL-629004**

**OCTOBER-2023**

## CERTIFICATE

This is to certify that the dissertation entitled "A STUDY ON  
**DETOUR CONCEPTS IN GRAPHS**" submitted by **S. REJISMA** (Reg.  
**No. 2022SPM137**) of II M.Sc Mathematics (Self-Financed) to the Holy Cross  
College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar  
University, Tirunelveli for the award of M.Sc. Degree in Mathematics in a  
bonafide record of the Project work done by her under our guidance. Also  
certified that this dissertation has not previously formed the basis for the  
award of any degree, diploma or any other similar title from the same  
university or any other institution.

Place: Nagercoil


Date: 26/10/2023

S. Vijaya  
31.10.2023

External Examiner

  
26/10/23  
Dr. J. NESA GLODEN FLOWER

(Guide and Supervisor)

  
Head of the Department  
Department of Mathematics (S.F.)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.

## DECLARATION

We hereby declare that this dissertation "**A STUDY DETOUR CONCEPT IN GRAPHS**" is being submitted to Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the requirement for the award of the degree of "**MASTER OF SCIENCE IN MATHEMATICS**" is a record of the dissertation done by us during our period of study under the supervision and guidance of **Dr. J. NESA GOLDEN FLOWER, M.Sc., B.Ed., M.Phil., Ph.D.**, Assistant Professor, Department of Mathematics (Self-Financed), Holy Cross College (Autonomous), Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 26/10/2023



S. REJISMA

**DEPARTMENT OF PHYSICS**

**ECO-FRIENDLY CONCRETE REINFORCEMENT:  
ENHANCING SUSTAINABILITY WITH SODIUM ACETATE  
TREATED COIR FIBRE**

**PROJECT REPORT**

*Submitted to Holy Cross College (Autonomous), Nagercoil affiliated to  
Manonmanium Sundaranar University in partial fulfillment of the requirement for  
the award of the degree of*

**MASTER OF SCIENCE IN PHYSICS**

by

**MRIDULA PEARLY J (2022APP336)**

Under the Guidance of

**Dr. R. Krishna Priya**



**DEPARTMENT OF PHYSICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629004**

**October-2023**

**2023-2024**



Dr. R. Krishna Priya  
Assistant Professor of Physics,  
Holy Cross College (Autonomous),  
Nagercoil – 629004

## CERTIFICATE

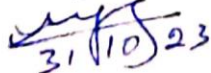
This is to certify that this project report entitled “ECO-FRIENDLY CONCRETE REINFORCEMENT: ENHANCING SUSTAINABILITY WITH SODIUM ACETATE TREATED COIR FIBRE” is a bonafide record of work done by Miss. MRIDULA PEARLY J of II M.Sc Physics in partial fulfillment of the degree of Master of Science in Physics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmanium Sundaranar University during the academic year 2023-2024 under my supervision.

  
Signature of the Project guide

  
Signature of the Head of the Department

Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA.,  
Head & Assistant Professor,  
PG & Research Department of Physics,  
Holy Cross College (Autonomous),  
Nagercoil, Kanyakumari District,  
Tamil Nadu, Pin 629 004.

Signature of the Examiner

  
31/10/23

**MRIDULA PEARLY J**

**II M.Sc. Physics**

**Holy Cross College (Autonomous),**

**Nagercoil - 629004.**

## **DECLARATION**

I hereby declare that this project report entitled **“ECO-FRIENDLY CONCRETE REINFORCEMENT: ENHANCING SUSTAINABILITY WITH SODIUM ACETATE TREATED COIR FIBRE”** is a record of original work done by myself under the guidance of **Dr. R. Krishna Priya**, Department of Physics, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-2024.

**Place: Nagercoil**

**Date: 31-10-2023**

*J. Mridula Pearly*,  
**Signature of the candidate**

**Mridula Pearly J**



**SYNTHESIZE AND CHARACTERIZATION OF NATURAL RUBBER  
BLENDED COPPER OXIDE NANOPARTICLE**

**PROJECT REPORT**

*Submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to Manonmanium Sundaranar University in partial fulfillment of the requirement for the award of the degree of*

**MASTER OF SCIENCE IN PHYSICS**

By

**SUJI S (2022APP422)**

Under the guidance of

**Dr. M. Abila Jeba Queen, M.Sc., M.Phil., SET., Ph.D.**



**DEPARTMENT OF PHYSICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629004  
NOVEMBER-2023**

Dr. M. Abila Jeba Queen. M.Sc., M. Phil., SET., Ph.D.  
DEPARTMENT OF PHYSICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL -629 004

CERTIFICATE

This is to certify project entitled "SYNTHESIS AND CHARACTERIZATION OF NATURAL RUBBER BLENDED COPPER OXIDE NANOPARTICLE" is the bonafide record of the work done by Miss. S. Suji (Reg.no. 2022APP422), under my guidance in the year 2023-2024 in partial fulfilment for the award of Master of Science in Physics of Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University. I further certify that this report or any part of it has not been submitted by her elsewhere for any other to the best of my knowledge.



Signature

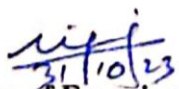
Head of the Department

Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA.,  
Head & Assistant Professor,  
PG & Research Department of Physics,  
Holy Cross College (Autonomous),  
Nagercoil, Kanyakumari District,  
Tamil Nadu. PIN: 629 004.



Signature

Project Guide



Signature of Examiners



**DECLARATION**

**Miss. SUJI S (Reg.no. 2022APP422)**

**II. M.Sc. Physics,**

**Holy Cross College (Autonomous),**

**Nagercoil-629 004.**

I hereby declare that this project work entitled “**SYNTHESIS AND CHARACTERIZATION OF NATURAL RUBBER BLENDED COPPER OXIDE NANOPARTICLE**” is an original work done in the Department of Physics, Holy Cross College (Autonomous) Nagercoil under the guidance of Dr. M. Abila Jeba Queen, M.Sc., M.Phil., SET., Ph.D. during the academic year 2023-2024. I also declare that the project report presented here is our original work and has not been submitted for any other degree.

**NAME OF THE CANDIDATES**

**Miss. Suji S**



**SIGNATURE**

**Place: Nagercoil**

**Date: 31/10/2023**

**CdO-MgO and CdO-Fe<sub>2</sub>O<sub>3</sub> Nanocomposites:  
Ultrasonication Assisted Synthesis and Characterization**

**PROJECT REPORT**

*Submitted to Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University in partial fulfillment of the requirement for the award of the degree of*

**MASTER OF SCIENCE IN PHYSICS**

**by**

**NAME**

**R.Fathima Naseeha**

**REGISTER NUMBER**

**2022APP325**

Under the guidance of

**Dr.M.Priya Dharshini, M.Sc., PGDCA., SET., M.Phil., Ph.D**



**DEPARTMENT OF PHYSICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629004  
NOVEMBER-2023**

**Ms.R.Fathima Nasecha**

II M.Sc. Physics

Holy Cross College (Autonomous)

Nagercoil - 629 004.

### DECLARATION

I hereby declare that the investigation reported in this project work is entirely original and have been carried out by me in the Department of Physics, Holy Cross College (Autonomous) Nagercoil under the supervision and guidance of Dr.M.Priya Dharshini and it has not formed the basis for the award of any degree/diploma.

Place:Nagercoil

Date: 31-10-2023

**R. Fathima Nasecha**  
Signature of the candidate

**Dr.M.PRIYA DHARSHINI, M.Sc., PGDCA., SET, M.Phil.,Ph.D.**

Assistant Professor of Physics

Holy Cross College (Autonomous)

Nagercoil - 629 004

### CERTIFICATE

This is to certify that the project entitled "CdO-MgO and CdO-Fe<sub>2</sub>O<sub>3</sub> Nanocomposites: Ultrasonication Assisted Synthesis and Characterization" is the bonafide record of the work done by Ms.R.Fathima Naseeha (Reg. No.2022APP325) in partial fulfillment for the award of degree of Master of Science in Physics of Holy Cross College(Autonomous) affiliated o Manonmaniam Sundaranar University during the academic year 2023-2024.

**Signature of HOD**

**Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA.,**  
Head & Assistant Professor,  
PG & Research Department of Physics,  
Holy Cross College (Autonomous),  
Nagercoil, Kanyakumari District,  
Tamil Nadu. PIN: 629 004.  
Place:Nagercoil

**Signature of Project Guide**

Date: 31-10-2023

**EXAMINERS**

1)   
31/10/23

2)



**DEPARTMENT OF CHEMISTRY**

**ADSORPTION OF REACTIVE DYES FROM AQUEOUS SOLUTION  
USING ACTIVATED CARBON PREPARED FROM THE ROOT OF  
RUELLIA TUBEROSA AND AMARANTHUS DUBIUS**

*Project work submitted to Holy Cross College (Autonomous) affiliated  
to the Manonmaniam Sundaranar University in partial fulfillment  
of the requirement of the award of the degree of*

**Master of Science in Chemistry**

**Under the guidance of**

**Dr. M.ANTILIN PRINCELA**

**Submitted by**

**M. ABITHA**

**(Reg. No: 2022SPG140)**



**DEPARTMENT OF CHEMISTRY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

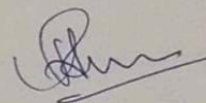
**OCTOBER 2023**

**CERTIFICATE**

This is to certify that the project work entitled "ADSORPTION OF REACTIVE DYES FROM AQUEOUS SOLUTION USING ACTIVATED CARBON PREPARED FROM THE RUELLIA TUBEROSA AND AMARANTHUS DUBIUS" being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of **M. ABITHA**, under my guidance during the academic year 2023-2024 for the partial fulfillment of the requirement for the **Degree of Master of Science in Chemistry**. This has not been considered for the award of any other degree by any other University.

Place: Nagercoil

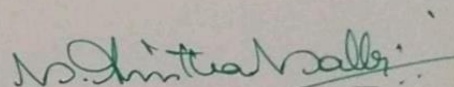
Date: 31/10/23



**Dr. M. ANTILIN PRINCELA**

(Guide)

**External Examiner**



**Head of the Department**

1. *J. Malavika*  
31/10/23

2. *Fig. S*  
31/10/2023



**DECLARATION**

I hereby declare that this project work entitled "**ADSORPTION OF REACTIVE DYES FROM AQUEOUS SOLUTION USING ACTIVATED CARBON PREPARED FROM THE ROOT OF RUELLIA TUBEROSA AND AMARANTHUS DUBIUS**" being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the **Degree of Master of Science in Chemistry** is a record of the project work done by us during the period of study under the supervision and guidance of **Dr. M.ANTILIN PRINCELA**, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous) Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 31/10/23

*M. Abitha*

**M.ABITHA**

(Reg. No: 2022SPG140)

**PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING  
THE EXTRACT OF *SANSEVIERIA TRIFASCIATA LAURENTII***

Project work submitted to Holy Cross College (Autonomous), Nagercoil affiliated  
to the *Manonmaniam Sundaranar University, Tirunelveli* in partial fulfilment  
of the requirement of the award of the degree of

**MASTER OF SCIENCE**

**IN**

**CHEMISTRY**

Submitted by

**M. ANTONY RASHMIN (Reg. No:2022SPG141)**



**DEPARTMENT OF CHEMISTRY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**OCTOBER 2023**

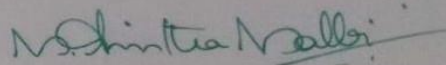
Dr.B.T. Delma  
Assistant Professor  
Department of Chemistry  
Holy Cross College (Autonomous), Nagercoil

### CERTIFICATE

This is to certify that the project work entitled “**PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING THE EXTRACT OF *SANSEVIERIA TRIFASCIATA LAURENTII***” submitted by **M. Antony Rashmin** (Reg.No. 2022SPG141) of II M. Sc. Chemistry, Holy Cross College (Autonomous) Nagercoil in partial fulfilment of the requirement for the award of the Degree of Master of Science in Chemistry is a bonafide record of the work done by her under my supervision.

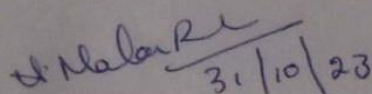


Dr.B.T. Delma  
(Supervisor)

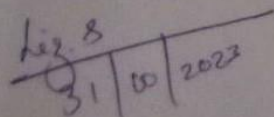


Dr.M. Anitha Malbi  
( Head of the Department)

Submitted for Viva-Voce Examination held on 31.10.2023



External Examiner



31/10/2023

## DECLARATION

I hereby declare that the project work entitled "**PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING THE EXTRACT OF *SANSEVIERIA TRIFASCIATA LAURENTII***" submitted by me for the award of degree of Master of Science in Chemistry is the record of my original and independent project work carried out under the supervision of **Dr.B.T. DELMA**, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous) Nagercoil and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31.10.2023

M. Antony Rashmin

**M. Antony Rashmin**

**(Reg.No. 2022SPG141)**

**PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES  
USING SANSEVIERIA ZEYLANICA EXTRACT AND THEIR  
ANTIMICROBIAL ACTIVITY**

*Project report submitted to Holy Cross College (Autonomous), Nagercoil affiliated*

*to the Manonmaniam Sundaranar University in partial fulfillment*

*of the requirements for the award of the Degree of*

**MASTER OF SCIENCE**

**IN**

**CHEMISTRY**

**Submitted by**

**M. ANUSHA**

**(Reg. No: 2022SPG142)**



**DEPARTMENT OF CHEMISTRY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**[ACCREDITED WITH A' GRADE (CGPA 3.35)]**

**NAGERCOIL-629004**

**OCTOBER 2023**

Dr. B.T. Delma

Assistant Professor

Department of Chemistry

Holy Cross College (Autonomous), Nagercoil


**CERTIFICATE**

This is to certify that the project work entitled "PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING SANSEVIERIA ZEYLANICA EXTRACT AND THEIR ANTIMICROBIAL ACTIVITY" submitted by M. Anusha (Reg. No. 2022SPG142) of II M.Sc. Chemistry, Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the requirement for the award of the Degree of Master of Science in Chemistry is a bonafide record of the work done by her under my supervision.



**Dr. B.T. DELMA**

(Supervisor)



**Dr. M. Anitha Malbi**

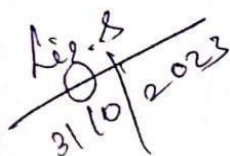
(Head of the Department)

Submitted for Viva-Voce Examination held on 31.10.2023



31/10/23

External Examiner



31/10/2023

## DECLARATION

I hereby declare that the project work entitled "**PLANT MEDIATED SYNTHESIS OF SILVER NANOPARTICLES USING SANSEVIERIA ZEYLANICA EXTRACT AND THEIR ANTIMICROBIAL ACTIVITY**" submitted by me for the award of the degree of Master of Science in Chemistry is the record of my original and independent project work carried out under the supervision of **Dr. B.T. Delma**, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous), Nagercoil and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31.10.2023

M. Anusha.

Anusha. M

(Reg. No: 2022SPG142)



**FACILE SYNTHESIS, CHARACTERIZATION AND CORROSION  
INHIBITION OF COPPER-DOPED ZINC OXIDE NANOPARTICLES  
USING FRUIT EXTRACT OF AZADIRACHTA INDICA**

*Project report submitted to Holy Cross College (Autonomous), Nagercoil affiliated*

*to the Manonmaniam Sundaranar University in partial fulfillment*

*of the requirements for the award of the Degree of*

**MASTER OF SCIENCE**

**IN**

**CHEMISTRY**

**Submitted by**

**S. ASHWINI**

**(Reg. No: 2022SPG143)**



**DEPARTMENT OF CHEMISTRY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**[ACCREDITED WITH A+ GRADE (CGPA 3.35)]**

**NAGERCOIL-629004**

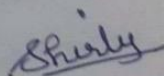
**OCTOBER 2023**



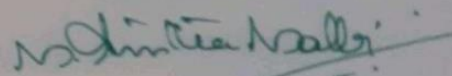
Dr. M. Shirly Treasa  
Assistant Professor  
Department of Chemistry  
Holy Cross College (Autonomous), Nagercoil

**CERTIFICATE**

This is to certify that the project work entitled "FACILE SYNTHESIS, CHARACTERIZATION AND CORROSION INHIBITION OF COPPER-DOPED ZINC OXIDE NANOPARTICLES USING FRUIT EXTRACT OF AZADIRACHTA INDICA" submitted by S. Ashwini (Reg. No. 2022SPG143) of II M.Sc. Chemistry, Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the requirement for the award of the Degree of Master of Science in Chemistry is a bonafide record of the work done by her under my supervision.

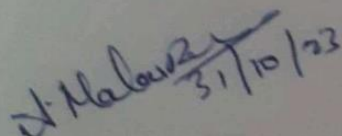


**Dr. M. SHIRLY TREASA**  
(Supervisor)

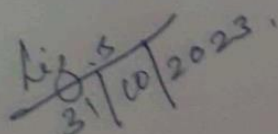


**Dr. M. Anitha Malbi**  
(Head of the Department)

Submitted for Viva-Voce Examination held on 31/10/2023



External Examiner



## DECLARATION

I hereby declare that the project work entitled "FACILE SYNTHESIS, CHARACTERIZATION AND CORROSION INHIBITION OF COPPER-DOPED ZINC OXIDE NANOPARTICLES USING FRUIT EXTRACT OF AZADIRACHTA INDICA " submitted by me for the award of the degree of Master of Science in Chemistry is the record of my original and independent project work carried out under the supervision of Dr. M. Shirly Treasa, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous), Nagercoil and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31/10/2023

*Ashwini S*  
Ashwini S

(Reg. No: 2022SPG143)

**FACILE SYNTHESIS AND BIOLOGICAL ASSESMENT OF SILVER  
NANOPARTICLES USING *MUSA ACCUMINATA CULTIVAR MATTI***

*Project work submitted to Holy Cross College (Autonomous), Nagercoil affiliated  
to Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment  
of the requirement for the award of the degree of*

**MASTER OF SCIENCE  
IN  
CHEMISTRY**

*Submitted by*

**M. JOLINNILOFA**

**(Reg. No:2022SPG149)**



**DEPARTMENT OF CHEMISTRY  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629004  
OCTOBER 2023**

**Dr. M. Antilin Princela**

**Assistant Professor**

**Department of Chemistry**

**Holy Cross College (Autonomous), Nagercoil**

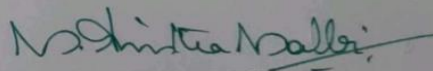
**CERTIFICATE**

This is to certify that the project work entitled "**FACILE SYNTHESIS AND BIOLOGICAL ASSESSMENT OF SILVER NANOPARTICLES USING *MUSA ACCUMINATA CULTIVAR MATT***" submitted by **M. JOLINNILOFA**, (Reg. No.2022SPG149) of II M.Sc. Chemistry, Holy Cross College (Autonomous), Nagercoil in partial fulfilment of the requirement for the award of the Degree of Mater of Science in Chemistry is a bonafide record of the work done by her under my supervision.



**Dr. M. Antilin Princela**

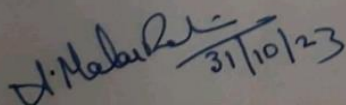
(Supervisor)



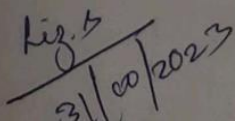
**Dr. M. Anitha Malbi**

(Head of the Department)

Submitted for Viva -Voce Examination held on 31.10.2023



**External Examiner**



**DECLARATION**

I hereby declare that this project work entitled "**FACILE SYNTHESIS AND BIOLOGICAL ASSESSMENT OF SILVER NANOPARTICLES USING *MUSA ACCUMINATA CULTIVAR MATTI***" submitted by me for the award of the degree of Master of Science in Chemistry is the record of an original and independent project work carried out under the supervision of Dr. M. Antilin Princela, Assistant professor, Department of Chemistry, Holy Cross College, Nagercoil and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any university or institution.

Place: Nagercoil

Date:

*M. Jolinnilofa*

**M. JOLINNILOFA**

**(Reg.No :2022SPG141)**

AN INVESTIGATION ON THE GREEN SYNTHESIS OF ZINC OXIDE  
NANOPARTICLES USING LEAF EXTRACTS OF PIMENTA  
DIOICIA AND ITS ANTIMICROBIAL POTENTIAL

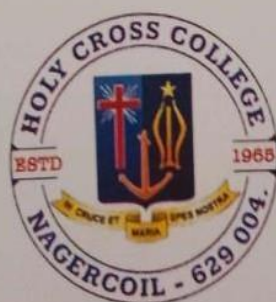
*Project work submitted to Holy Cross College (Autonomous) affiliated  
to the Manonmaniam Sundaranar University in partial fulfillment  
of the requirement of the award of the degree of*

MASTER OF SCIENCE  
IN  
CHEMISTRY

*Submitted by*

P. KAVENA

Reg. No:2022SPG151



DEPARTMENT OF CHEMISTRY  
HOLY CROSS COLLEGE (AUTONOMOUS)

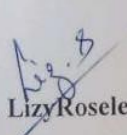
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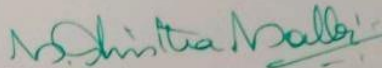
OCTOBER 2023

Dr. S. LizyRoselet  
Assistant Professor  
Department of Chemistry  
Holy Cross College (Autonomous), Nagercoil

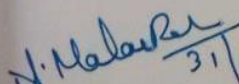
CERTIFICATE

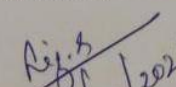
This is to certify that the project work titled "AN INVESTIGATION ON THE GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING LEAF EXTRACTS OF PIMENTA DIOICIA AND ITS ANTIMICROBIAL POTENTIAL" submitted by P.KAVENA (Reg. No. 2022SPG151) of II M.Sc Chemistry, Holy Cross College (Autonomous), Nagercoil in partial fulfilment of the requirement for the award of the Degree of Master of Science in Chemistry is a bonafide record of the work done by her under my supervision.

  
Dr. S. LizyRoselet  
(Supervisor)

  
Dr. M. Anitha Malbi  
(Head of the Department)

Submitted for Viva-Voce examination held on 31/10/2023

  
31/10/23  
External Examiner

  
31/10/2023

## DECLARATION

I hereby declare that this project work entitled "AN INVESTIGATION ON THE GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING LEAF EXTRACTS OF PIMENTA DIOICIA AND ITS ANTIMICROBIAL POTENTIAL" submitted by me for the award of the degree of Master of Science in Chemistry is the record of my original and independent project work carried out under the supervision of Dr. S. Lizy Roselet, Assistant Professor, Department of Chemistry, Holy Cross College, Nagercoil and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31.10.2023

P. Kavena

P.KAVENA

(Reg. No: 2022SPG151)



**DEPARTMENT OF BOTANY**

**"ANALYSIS OF THE PHYTOCHEMICALS OF CORIANDER ESSENTIAL OIL AND  
THEIR QUALITY OF OIL BY FT-IR"**

*Thesis Submitted to Manonmaniam Sundaranar University*  
*In partial fulfillment of the requirements for the award of the degree of*  
**MASTER OF SCIENCE IN BOTANY**

Submitted by

**R.SAHAYA SNEHA**

(Reg. No. 2022SPB243)

*Under the guidance of*

**Dr.S.KALA VETHA KUMARI.M.Sc,M.Phil,Ph.D**

(Assistant Professor, Department of Botany)



**DEPARTMENT OF BOTANY**  
**HOLY CROSS COLLEGE (AUTONOMOUS),**  
Accredited with A+ Grade (CGPA 3.35) by NAAC  
**NAGERCOIL- 629 004**  
**OCTOBER 2023**

**Dr. S. Kalavetha Kumari, M.Sc., M.Phil., Ph.D.,**  
Assistant Professor,  
Department of Botany,  
Holy Cross College (Autonomous),  
Nagercoil – 629 004.

**CERTIFICATE**

This is to certify that the thesis entitled "**Analysis of the phytochemicals of Coriander essential oil and their quality of oil by FT-IR**" submitted in partial fulfillment of the requirements for the award of degree of Master of Science in Botany is a recorded original research work done by **R.Sahaya Sneha (Reg.No.22022SPB243)** during the period of June 2023 to October 2023 in the Department of Botany at Holy Cross College, Nagercoil under my supervision and guidance is a record of bonafide research work it has not been submitted for the award of any degree, diploma, associateship, fellowship of any University/ Institution.

*Anami*

**Dr. A. ANAMI AUGUSTUS ARUL, M.Sc., M.Phil., Ph.D.**  
Assistant Professor and Head  
**Head of the Department**  
Department of Botany  
Holy Cross College (Autonomous)  
Nagercoil-4.

*AS*  
**Guide/Supervisor**

**External Examiner 1:**

*AS*  
21.10.2023

**External Examiner 2:**

*AS*  
31/10/2023

**R.Sahaya Sneha ,**

**(Reg.No.2022SPB243)**

II M.Sc.Botany,

Holy Cross College (Autonomous),

Nagercoil – 629 004.

### DECLARATION

I hereby declare that the thesis entitled “**Analysis of the phytochemicals of Coriander essential oil and their quality of oil FT-IR**” submitted by me is the result of original and independent research work carried out under the guidance of **Dr. S.kala vetha kumari**, Assistant Professor in Botany, Holy Cross College (Autonomous), Nagercoil – 629 004 and it has not been previously submitted for the award of any degree, diploma, associateship, fellowship of any University/ Institution.

*R. Sahaya Sneha*

Place: Nagercoil

Date: 31.10.2023

## 1. INTRODUCTION

Coriander (*Coriander sativum L*) is an herbaceous annual plant, aromatic, and belongs to the family Apiaceae. It has a long history of nutritional and therapeutic uses and is used in the preparation of various foods as spices. It is endemic to the mediterranean region and grows extensively in India, Bangladesh, Russia, Morocco and central Europe and Mendal, 2015). Coriander has many therapeutic properties including antiinflammatory, analgesic, anticonvulsant, blood pressure lowering, cholesterol lowering, indigestible and sedat (Rajeshwari and Andallu, 2011;Asgharpanah;Laribietal., 2015). Coriander leaves and seeds are relatively good sources of essential oil (Mandal and Mandal, 2015).

The content of essential oils is generally affected by coriander cultivar, weather conditions, stage of maturity and geographical location of the plant growth area (Laribi et al., 2015). Linalool is the greatest (40–70%) and most important constituent of the essential oil of coriander seeds. Linalool is a monoterpene alcohol found in many plants and has an antimicrobial effect on a wide range of bacteria (Mandal and Mandal, 2015). It's anti-inflammatory, anticoagulant, antinociceptive, anticonvulsant and antioxidant properties have also been known (Peana).

Coriander (*Coriandrum sativum L.*) is an annual plant grown throughout the world as a culicoriandnary, medicinal, or as essential oil crop<sup>1</sup>, palavra(2008), Coriander essential oil is extracted from coriander seeds (fruits) , although the whole plant also contains aromatic oil Balinova-(1975) Coriander oil has numerous applications in the food and pharmaceutical industry, cosmetics, and in aromatherapy<sup>1</sup>, Lawrence-(2008), The essential oil has been shown to possess antimicrobialElagayyar and Samojlik(2001 and2010) antioxidant Shahidi F (2001), and other health related benefits Bates D.M(2007). Coriander fruits also contain fatty acids, which were recently shown to have promising biofuelArganose,G.C(2005).

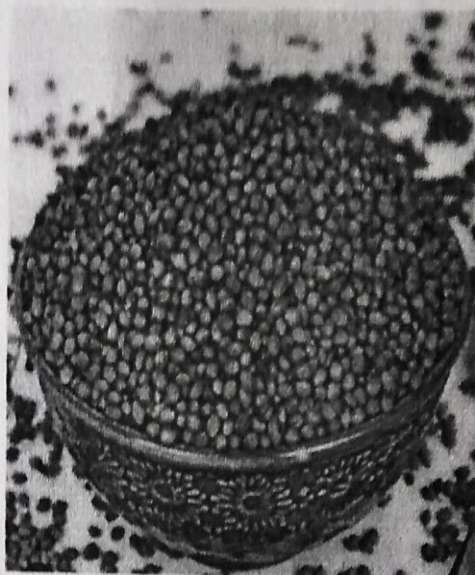
The Apiaceae (Umbelliferae) is one of the best known families of flowering plants, which comprise 300–450 genus and 3000–3700 species Coskuner (2007), They are aromatic plant and ave a distinctive flavor with diverse volatile compounds from the fruits and leaves. *Coriandrum ativum L*, known as Coriander, is native to Iran, however it is widely distributed around the world. he seeds contain an essential oil (up to 1%) and the seeds are used in traditional medicine for

## 4. MATERIALS AND METHODS

### 4.1 SAMPLE COLLECTION :

Coriander (*Coriandrum sativum*), i.e. Coriander seeds were purchased from local shop kadiapattanam , Kanyakumari.District. The collected samples were washed thoroughly by water to remove dust particles and air dried. The air-dried seeds were grind and milled by heavy mixer.

### SCIENTIFIC CLASSIFICATION



**PHYTOCHEMICAL SCREENING, ANTIBACTERIAL AND  
ANTICANCER ACTIVITY OF *Citrus limon* (L). OSBECK PEEL  
ESSENTIAL OIL**

THESIS SUBMITTED TO MANONMANIAM SUNDARANAR UNIVERSITY  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF  
MASTER OF SCIENCE IN BOTANY.

Submitted by

**Manya Das. M (Reg. No. 2022SPB291)**

Under the Guidance of

**Dr. W. VINCY**

(Assistant Professor, Department of Botany)



**DEPARTMENT OF BOTANY  
HOLY CROSS COLLEGE (AUTONOMOUS),  
Accredited with A+ Grade (CGPA3.35) by  
NAAC NAGERCOIL-629 004.**

**OCTOBER 2023**

Dr. W. VINCY  
Assistant Professor,  
Department of Botany,  
Holy Cross College (Autonomous)  
Nagercoil- 629004.

### CERTIFICATE

This is to certify that the thesis entitled “**Phytochemical Screening , Antibacterial and Anticancer Activity of *Citrus limon* (L). Osbeck peel essential oil**” submitted in partial fulfilment of the requirements for the award of degree of Master of Science in Botany is a recorded original research work done by Miss. Manya Das. M (2022SPB291) during the period of July 2023 to October 2023 in the Department of Botany at Holy Cross College, Nagercoil under my supervision and guidance and the project record work has not formed the basis for the award of any degree, diploma, associateship, at any University / Institution.

*Anami*

Dr. A. ANAMI AUGUSTUS ARUL, M.Sc., M.Phil., Ph.D.  
Assistant Professor and Head  
Department of Botany  
Holy Cross College (Autonomous)  
Nagercoil-4.

**Head of the Department**

**Guide/Supervisor**

*Wincy W*  
(Dr.W.VINCY)

**External Examiner 1:**

*S. S. S. S.*  
31.10.2023

**External Examiner 2:**

*[Signature]*  
31/10/2023

Miss. Manya Das, M (2022SPB291)

II M.Sc. Botany,

Holy Cross College (Autonomous),

Nagercoil- 629 004.

## DECLARATION

This is to certify that the thesis entitled "**Phytochemical Screening, Antibacterial and Anticancer Activity of *Citrus limon* (L). Osbeck peel essential oil**" is an authentic record of the work done by me under the supervision and guidance of **Dr. W. VINCY**, Assistant Professor, Department of Botany, Holy Cross College (Autonomous), Nagercoil - 629 004 in partial fulfilment of the requirements before for any other degree.

Place: Nagercoil

Date: 31-10-2023

Manya Das, M (2022SPB291)



## INTRODUCTION

Plants are invaluable source for numerous natural products, belong to various classes of secondary metabolites, on which mankind depend for centuries to use as food preservatives, flavoring agents, fragrances, pharmaceuticals and therapeutic agents Basappa *et al.*, 2015. Plants are one of the two major groups of living organisms that are an essential entity to the function of the biosphere. Plants can be found in all known parts of the earth, in all shapes and sizes. They include the green algae, mosses, ferns, vines, grasses, bushes, herbs, flowering plants and trees. Although some plants are parasitic, most produce their own food through photosynthesis. Most plants initiate from a seed. The importance of plants in the food chain dates back to Ancient times. The first humans gathered wild plants for food. As settlements developed, food crops were cultivated, leading to selection of high-yielding cultivated varieties to feed the growing populations. Unlike plants, humans and other animals are unable to manufacture their own food. Therefore, they are dependent, directly or indirectly, on plants. Plants are found in natural ecosystems such as rain forests, and also in agricultural areas and urbanized settings. They are an essential part of our daily lives providing food, clean air, and important ecosystem functions. The study of plants and their function could be considered the most complex of interactions (Fernando, 2012).

Plants are a source of a wide range of natural products that possess various therapeutic properties and are continuously explored to develop novel drugs (Singh *et al.*, 2012). For ages, traditional medicines have depended on these natural products to treat many diseases. Today, most of the pharmaceutical medications are processed from these natural products. Natural products are made up of many bioactive compounds. These bioactive compounds impart biological activity against several disease-causing agents. To date, numerous secondary metabolites with diverse structures and pharmacological properties have been identified from plants (Gad *et al.*, 2013 and Singh *et al.*, 2012). Knowledge adhered by the traditional medicine system has paved the way for the ongoing exploration of medicinal plants for manufacturing pharmaceutical products (Mushtaq *et al.*, 2018). More than 85–90% of the world's population depends on the traditional medicine system for combating various diseases (Wangchuk *et al.*, 2018).

## MATERIALS AND METHODS

### Collection of plant material

Fruits of *Citrus limon* (L.) Osbeck were collected from Poovar, Thiruvananthapuram. They were washed thoroughly and peels were removed from the fruit.



Fig. 2 *Citrus limon* fruit



Fig. 3 Peels removed from *Citrus limon* fruit

Dep. Copy

**Phytochemical Screening, Antimicrobial and Anticancer Efficacy of  
*Zingiber officinale* Roscoe**

*Thesis Submitted to Manonmaniam Sundaranar University  
in partial fulfillment of the requirements of the degree of*

**MASTER OF SCIENCE IN BOTANY**

Submitted by

Ittiyara Praki. J

(Reg. No. 2022SPB163)

*Under the guidance of*

**Dr.J.CELIN PAPPA RANI**

(Assistant Professor, Department of Botany)



DEPARTMENT OF BOTANY  
HOLY CROSS COLLEGE (AUTONOMOUS),  
Accredited with A+ Grade (CGPA 3.35) by NAAC  
NAGERCOIL- 629 004

OCTOBER 2023

Dr.J.CELIN PAPPA RANI, M.Sc., M.Phil., Ph.D.,

Assistant Professor,

Department of Botany,

Holy Cross College (Autonomous),

Nagercoil - 629 004.

### CERTIFICATE

This is to certify that the thesis entitled "Phytochemical Screening, Antimicrobial and Anticancer Efficacy of *Zingiber officinale* Roscoe" submitted in partial fulfillment of the requirements for the award of degree of Master of Science in Botany is a recorded original research work done by Ittiyara Praki.J (Reg.No.22022SPB163) during the period of June 2023 to October 2023 in the Department of Botany at Holy Cross College, Nagercoil under my supervision and guidance is a record of bonafide research work it has not been submitted for the award of any degree, diploma, associate ship, fellowship of any University/ Institution.

*Anami*

Dr. A. ANAMI AUGUSTUS ARUL, M.Sc., M.Phil., Ph.D.  
Assistant Professor and Head  
Department of Botany  
Holy Cross College (Autonomous)  
Nagercoil-4.

Guide/Supervisor

*J. Celin*  
(Dr.J.Celin Pappa Rani)

External Examiner 1:

*Shivam*  
31.11.2023

External Examiner 2:

*Hb*  
31/10/2023

**Ittiyara Praki. J** (Reg.No.22022SPB163)

II M.Sc.Botany,

Holy Cross College (Autonomous),

Nagercoil – 629 004.

### DECLARATION

I hereby declare that the thesis entitled “Phytochemical Screening, Antimicrobial and Anticancer Efficacy of *Zingiber officinale* Roscoe” submitted by us is the result of original and independent research work carried out under the guidance of Dr.J.Celin Pappa Rani, Assistant Professor in Botany, Holy Cross College (Autonomous), Nagercoil – 629 004 and it has not been previously submitted for the award of any degree, diploma, associate ship, fellowship of any University/ Institution.

Place : Nagercoil

Date : 31-10-2023

J. Ittiyara Praki  
Ittiyara Praki. J

## INTRODUCTION

Medicinal herbs or plants are considered as a key ingredients which can be used in drug development either pharmacopoeial, non pharmacopoeial or synthetic drug or culinary purpose. Plants are an important source of medicine and play a key role in human health (Sandberg and Corrigan, 2001). Essential oils are compounds extracted from aromatic plants, and some essential oils are considered as effective inhibitors of food-borne pathogens and widely used in food preservation (Baroty *et al.*, 2010; Noori *et al.*, 2018). Medicinal plants with culinary purpose prove to be a great ingredient which everyone needs to incorporate in their daily foods. Historically, natural products have been used since ancient times and in folklore for the treatment of many diseases and illnesses (Mbveng and Kuete, 2017). Phytochemicals are the bioactive chemicals of plant origin as secondary metabolites because the plants that manufacture them may have little need for them (Molyneux *et al.*, 2007).

They are synthesized in all parts of the body such as leaves, stem, bark, root, flower, fruits, seeds, etc., i.e. any part of the plant body may contain active components. These chemicals work with nutrients and fibers to form an integrated part of the defense system against various diseases and stress condition (Edeoga, 2005). The use of essential oil in food preservation is limited owing to its water-insolubility, instability, and characteristic taste, which alters the food sensory properties (Wen *et al.*, 2016). Thus, encapsulation of essential oils into fibers is an effective alternative to overcome these disadvantages (Antuntes *et al.*, 2017). As it improves solubility, thermal stability, and enables controlled release of the compounds (Restuccia *et al.*, 2010). Phytopathogens are the main cause of plant diseases that result in significant crop losses, especially in tropics. Prevention or reduction of plant diseases infestation is a major concern of farmers. In spite of the advances in production agriculture, effective management of plant disease remain a challenge because of the side effects of existing pesticides as most of them chemically synthetic (bactericides, fungicides, among others) (Shaheen and Issa, 2020).

Excessive use of synthetic pesticides has been implicated in their negative effects on the environment such as soil and water pollution, long periods of degradation, residual accumulation in the food chain, and less control efficacy against pathogenic microbes with long-term usage (Ghormade *et al.*, 2011; Nega, 2014; Bhavaniramya *et al.*, 2019). Globally, the use of some of the existing antibiotics in agriculture is being banned because of the adverse effects of the



**Plate 5: Antimicrobial activity of Agar Well Diffusion Method of Ginger Essential Oil**

#### **Minimum Inhibitory Concentration (MIC) of Ginger essential oil**

Susceptibility testing typically contracted using organism (*Pseudomonas aeruginosa*) chemoteropy. MIC values were obtained for ginger essential oil showed no turbidity in 50  $\mu\text{g/ml}$  and 40  $\mu\text{g/ml}$ . The MIC values increases when the Ginger essential oil amount decreases as in Table 4.

**DEPARTMENT OF ZOOLOGY**

**ISOLATION IDENTIFICATION OF HEAVY METAL TOLERANT  
BACTERIA FROM MANAVALAKURICHI COAST**

Dissertation submitted to Holy Cross College (Autonomous), Nagercoil Affiliated to  
Manonmaniam Sundaranar University, Tirunelveli  
in partial fulfilment of the requirements for the award of the degree of

**MASTER OF SCIENCE**

in

**ZOOLOGY**

By

**Adlin D**

**(2022APZ341)**

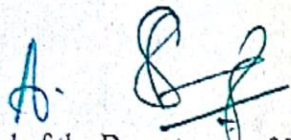


**DEPARTMENT OF ZOOLOGY  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629004  
NOVEMBER 2023**



**BONAFIDE CERTIFICATE**

This is certifying dissertation entitled "Isolation and Identification of heavy metal tolerant bacteria from Manavalakurichi coast." submitted by Adlin D (2022APZ341) towards the partial fulfilment of the requirements for the award of the degree of Master of Science in Zoology, is a bonafide record of the research work carried out by them during the academic year 2023-2024 under the guidance of **Dr. A. Punitha** Assistant, Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil and that this project has not been previously formed on the basis of the award of any Degree, Diploma, Associateship, Fellowship or any other similar title.

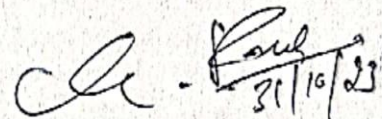


Head of the Department of Zoology

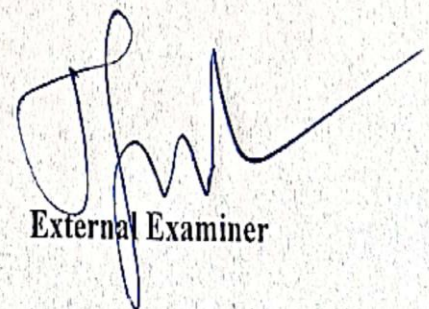
**Dr. A. SHYLA SUGANTHI, M.Sc., Ph.D.,**  
**HOD, Department of Zoology**  
**Holy Cross College (Autonomous)**  
**Nagercoil-629 004**

Submitted for the Viva Voice Examination .....

31/10/23



Dr. A. Punitha



External Examiner

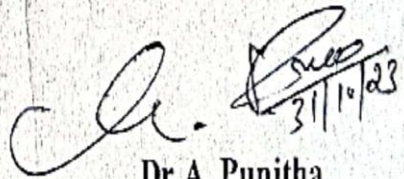
Dr. A. Punitha,  
Assistant Professor,  
Department of Zoology,  
Holy Cross College (Autonomous),  
Nagercoil – 629 004.

### CERTIFICATE

This is to certify that the dissertation entitled “**Isolation and Identification of heavy metal tolerant bacteria from Manavalakurichi coast**” is a bonafide record of the research work done by **Adlin D (2022APZ341)** under the supervision during them towards the partial fulfilment of the requirements for the award of the degree of **Master of Science in Zoology** at Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli during the academic year 2022-2023. This dissertation or any part of this has not been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 31-10-23



Dr. A. Punitha.

Supervisor

## DECLARATION

I do hereby affirm that the dissertation entitled “Isolation and Identification of heavy metal tolerant bacteria from Manavalakurichi coast” being submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the award of the degree of in **Masters of Science Zoology** is based on my **Adlin D (2022APZ341)** research work carried out by me under the guidance of **Dr. A. Punitha**, Assistant, Professor, in the Department of Zoology, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-2024 and this work has been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 31-10-23

Name:

Register Number

Signature

Adlin D

2022APZ341

Adlin-D

**ISOLATION IDENTIFICATION OF HEAVY METAL TOLERANT  
BACTERIA FROM MANAVALAKURICHI COAST**

Dissertation submitted to Holy Cross College (Autonomous), Nagercoil Affiliated to  
Manonmaniam Sundaranar University, Tirunelveli  
in partial fulfilment of the requirements for the award of the degree of

**MASTER OF SCIENCE**

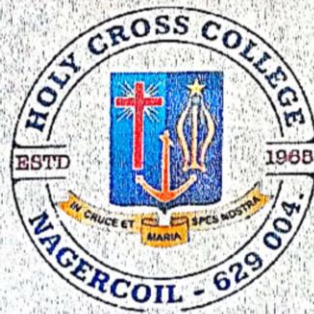
in

**ZOOLOGY**

By

**Ajola Resi S.R**

**(2022APZ343)**




**DEPARTMENT OF ZOOLOGY  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629004**

**NOVEMBER 2023**

**BONAFIDE CERTIFICATE**

This is certifying dissertation entitled "Isolation and Identification of heavy metal tolerant bacteria from Manavalakurichi coast." submitted by Ajola Resi S.R (2022APZ343) towards the partial fulfilment of the requirements for the award of the degree of Master of Science in Zoology, is a bonafide record of the research work carried out by them during the academic year 2023-2024 under the guidance of **Dr. A. Punitha** Assistant, Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil and that this project has not been previously formed on the basis of the award of any Degree, Diploma, Associateship, Fellowship or any other similar title.

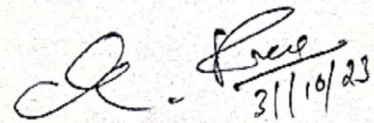


Head of the Department of Zoology

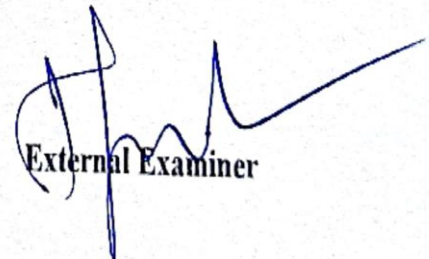
**Dr. A. SHYLA SUGANTHI, M.Sc, Ph.D.,**  
HOD, Department of Zoology  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

Submitted for the Viva Voice Examination .....

31/10/23



Dr. A. Punitha



External Examiner

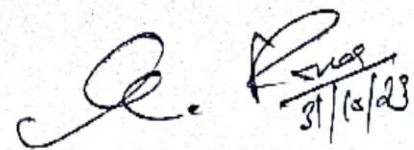
Dr. A. Punitha,  
Assistant Professor,  
Department of Zoology,  
Holy Cross College (Autonomous),  
Nagercoil – 629 004.

### CERTIFICATE

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Place: Nagercoil

Date: 31-10-23



Dr. A. Punitha.

Supervisor



## DECLARATION

I do hereby affirm that the dissertation entitled "Isolation and Identification of heavy metal tolerant bacteria from Manavalakurichi coast" being submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the award of the degree of in **Masters of Science Zoology** is based on my Ajola Resi S.R (2022APZ343) research work carried out by me under the guidance of Dr. A. Punitha, Assistant, Professor, in the Department of Zoology, Holy Cross College (Autonomous), Nagercoil during the academic year 2023-2024 and this work has been submitted elsewhere for any other degree.

Place: Nagercoil

Date: 21-10-23

Name:

Register Number

Signature

Ajola Resi S.R

2022APZ343

Ajola Resi S.R

254/7/23-24

**IDENTIFICATION AND CHARACTERIZATION OF MICROPLASTICS  
IN THE SEA WATER OF MUTTOM, KANYAKUMARI DISTRICT**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil affiliated to  
Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment of the requirements  
for the award of the Degree of*

**MASTER OF SCIENCE**

**IN**

**ZOOLOGY**

**submitted by**

**AGNEL J (Reg.No: 2022APZ342)**



**DEPARTMENT OF ZOOLOGY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL 629 004**

**November 2023**



## BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "IDENTIFICATION AND CHARACTERIZATION OF MICROPLASTICS IN THE SEA WATER OF MUTTOM, KANYAKUMARI DISTRICT" is a bonafide record of work done by Agnel J (Reg.No : 2022APZ342) under the guidance and supervision of Dr. Jeni Chandar Padua, Assistant Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil during their tenure towards the partial fulfillment of their requirement for the degree of Master of Science in Zoology at Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli.



Head of the Department of Zoology

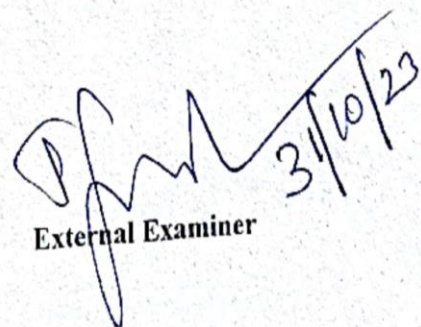
**Dr. A. SHYLA SUGANTHI, M.Sc., Ph.D.,**  
HOD, Department of Zoology  
Holy Cross College (Autonomous)  
Nagercoil-629 004



Dr. Jeni Chandar Padua

Research Guide

Submitted for Viva Voce Examination held on ..... 31/10/23



External Examiner

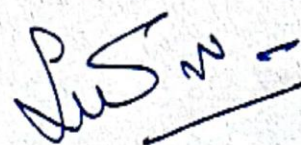
**Dr. Jeni Chandar Padua, M.Sc., M.A., B.Ed., M.Phil., SET, Ph.D.,**  
**Assistant Professor,**  
**Department of Zoology,**  
**Holy Cross College (Autonomous),**  
**Nagercoil – 629 004.**

**CERTIFICATE**

This is to certify that this dissertation entitled “**IDENTIFICATION AND CHARACTERIZATION OF MICROPLASTICS IN THE SEA WATER OF MUTTOM, KANYAKUMARI DISTRICT**” is a record of bonafide work done by **Agnel J (Reg.No: 2022APZ342)** during the academic year 2023 – 2024 under my guidance and supervision and it has not been submitted for the award of any degree, diploma, associateship or fellowship of any University or institution.

**Place: Nagercoil**

**Date: 31.10.2023**

  
**Dr. Jeni Chandar Padua**

**Research Guide**

## DECLARATION

I do hereby declare that the dissertation entitled “IDENTIFICATION AND CHARACTERIZATION OF MICROPLASTICS IN THE SEA WATER OF MUTTOM, KANYAUMARI DISTRICT” being submitted to Manonmaniam Sundaranar University, Tirunelveli, in the partial fulfilment for the award of the degree of **Master of Science in Zoology** is based on my, Agnel J (Reg. No: 2022APZ342) the record of our original and independent research work carried out under the guidance of **Dr. Jeni Chandar Padua M.Sc., M.A., B.Ed., M.Phil., SET, Ph.D., Assistant Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil** and it has not been submitted elsewhere for the award of any other degree or diploma, associateship or fellowship of any University or Institution.

Place: Nagercoil

Date: 31.10.2023



Agnel J (2022APZ342)

268/z/23-24

**Impact of different types of food on the growth and biochemical composition of the Ornamental Fish, *Cyprinus rubrofuscus***

Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University, Tirunelveli  
in partial fulfilment of the requirements for the award of the degree of

**MASTER OF SCIENCE**  
in  
**ZOOLOGY**  
by

**Aiswarya M V (2022APZ408)**

Under the guidance of

**Dr. Mrs. S. Mary Mettilda Bai,**  
**Associate Professor of Zoology**

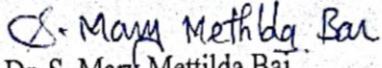


**DEPARTMENT OF ZOOLOGY**  
**HOLY CROSS COLLEGE (AUTONOMOUS), NAGERCOIL**  
Accredited with A<sup>+</sup> Grade (CGPA 3.35 - IV Cycle) by NAAC  
Affiliated to Manonmaniam Sundaranar University, Tirunelveli

**October 2023**

## BONAFIDE CERTIFICATE

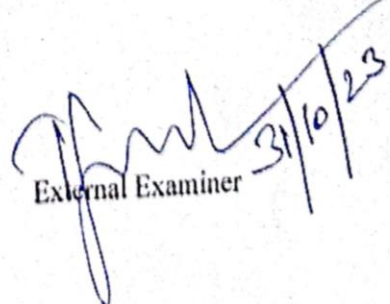
This is to certify that the dissertation entitled, "Impact of different types of food on the growth and biochemical composition of the Ornamental fish *Cyprinus rubrofasciatus*" submitted by Aiswarya M V (2022APZ408) towards the partial fulfilment of the requirements for the award of the degree of Master of Science in Zoology, is a bonafide record of the research work carried out by she during the academic year 2023-2024 under the guidance and supervision of Dr. Mrs. S. Mary Mettilda Bai, M.Sc., M.Phil., B.Ed., Ph.D., Associate Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil and that this project has not been previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or any other similar title.

  
Dr. S. Mary Mettilda Bai  
Research Supervisor

  
Head of the Department of Zoology

Dr. A. SHYLA SUGANTHI, M.Sc., Ph.D.,  
HOD, Department of Zoology  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

Submitted for Viva Voce Examination held on 31.10.2023

  
External Examiner 31/10/23

**Dr. Mrs. S. Mary Mettilda Bai, M.Sc., M.Phil., B.Ed., Ph.D.**

Associate Professor,

Department of Zoology,

Holy Cross College (Autonomous),

Nagercoil – 629 004.

### CERTIFICATE

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Place: Nagercoil

Date: 30.10.2023

  
Dr. Mrs. S. Mary Mettilda Bai

Research Supervisor

## DECLARATION

I do hereby declare that the dissertation entitled, "**Impact of different types of food on the growth and biochemical composition of the Ornamental fish, *Cyprinus rubrofuscus***" being submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment of the award of the degree of **Master of Science in Zoology** is based on the research work carried out by me, **Aiswarya M V (2022APZ408)** under the guidance of **Dr. Mrs. S. Mary Mettilda Bai, M.Sc., M.Phil., B.Ed., Ph.D., Associate professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil** during the academic year 2023-2024 and this work has not been submitted elsewhere for the award of any other degree, diploma, associateship or fellowship.

**Place: Nagercoil**

**Date: 30.10.2021**

*Aiswarya M.V*

**Aiswarya M V (2022APZ408)**

269/x/23-24

**A STUDY ON THE MICROPLASTIC CONTAMINATION IN THE  
SEAWATERS OF CHINNAMUTTOM COASTAL VILLAGE,  
KANYAKUMARI**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil affiliated to  
Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment of the requirements  
for the award of the Degree of*

**MASTER OF SCIENCE**

**IN**

**ZOOLOGY**

**submitted by**

**SIVALINGITHA N (Reg. No.:2022APZ410)**



**DEPARTMENT OF ZOOLOGY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

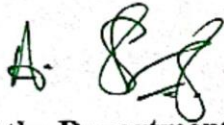
**NAGERCOIL 629 004**

**November 2023**




## BONAFIDE CERTIFICATE

is to certify that the dissertation entitled "A STUDY ON THE MICROPLASTIC CONTAMINATION IN THE SEAWATERS OF CHINNAMUTTOM COASTAL WATERS, KANYAKUMARI" is a bonafide record of work done by Sivalingitha N (Reg. No. 2022APZ410) under the guidance and supervision of Dr. Jeni Chandar Padua, Assistant professor, Department of Zoology, Holy cross collage (Autonomous), Nagercoil during their tenure towards the partial fulfillment of their requirement for the degree of Master of Science in Zoology at Holy Cross College (Autonomous), Nagercoil, affiliated to Annamalai University, Tirunelveli.



Head of the Department of Zoology

Dr. A. SHYLA SUGANTHI, M.Sc., Ph.D.,  
HOD, Department of Zoology  
Holy Cross College (Autonomous)  
Nagercoil-629 004



Dr. Jeni Chandar Padua

Research Guide

Submitted for Viva Voce Examination held on .....

External Examiner

Jeni Chandar Padua, M.Sc, M.A., B.Ed., M.Phil., SET, Ph.D.

Assistant Professor

Department of Zoology

St. Ann's Cross College (Autonomous)

Nagercoil

### CERTIFICATE

It is to certify that this dissertation entitled "A STUDY ON THE MICROPLASTIC CONTAMINATION IN THE SEAWATERS OF CHINNAMUTTOM COASTAL VILLAGE, KANYAKUMARI" is a record of bonafide work done by Sivalingitha N (Reg. No.: 2022APZ410) during the academic year 2023 – 2024 under my guidance and supervision and it has not been submitted for the award of any degree, diploma, associateship or fellowship of any University or institution.

Place: Nagercoil

Date: 31-10-2023



Dr. Jeni Chandar Padua

Research Guide

## DECLARATION

I do hereby declare that the dissertation entitled “A STUDY ON THE OPLASTIC CONTAMINATION IN THE SEAWATERS OF CHINNAMUTTOM TAL VILLAGE, KANYAKUMARI” being submitted to Manonmaniam Sundaranar sity, Tirunelveli, in the partial fulfilment for the award of the degree of Master of e in Zoology is based on my, Sivalingitha N (Reg. No: 2022APZ410) the record of iginal and independent research work carried out under the guidance of Dr. Jeni dar Padua M.Sc., M.A., B.Ed., M.Phil., SET, Ph.D., Assistant Professor, Department ology, Holy Cross College (Autonomous), Nagercoil and it has not been submitted here for the award of any other degree or diploma, associateship or fellowship of any ersity or Institution.

e: Nagercoil

:: 31-10-2023

*N. Sivalingitha*

Sivalingitha N (2022APZ410)

**DEPARTMENT OF ENGLISH**

*Understanding the Pet for Better Companionship: A Study on Stephen Foster's  
Walking Ollie*

PROJECT SUBMITTED TO  
HOLY CROSS COLLEGE (AUTONOMOUS)  
IN PARTIAL FULFILMENT OF THE REQUIREMENT  
FOR THE AWARD OF THE DEGREE OF  
**MASTER OF ARTS**

By

**Shanu Joans J**

**2022APE381**

Under the guidance of

**Dr.V. Virgin Nithya Veena**



PG & RESEARCH DEPARTMENT OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL  
OCTOBER 2023

Dr. V. Virgin Nithya Veena,  
Assistant Professor of English,  
Holy Cross College (Autonomous),  
Nagercoil-629004.

**CERTIFICATE**

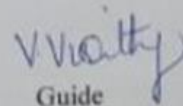
This is to certify that the project "**Understanding the Pet for Better Companionship: A Study on Stephen Foster's *Walking Ollie***" submitted by Shanu Joans J of II MA English Literature is a bonafide project work done during 2023-2024 under my guidance and supervision and that the project has not previously formed the basis for the award to the candidates of any Degree, Diploma or any other similar title.

Place: Nagercoil

Date: October 2023



Head of the Department  
Dr. ALBY GRACE, M.A., M.Phil., Ph.D.  
HEAD OF THE DEPARTMENT  
(Dr. Alby Grace)  
DEPT. OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629 004



Guide

(Dr. V. Virgin Nithya Veena)

I hereby declare that this project entitled "Understanding the Pet for Better Companionship: A Study on Stephen Foster's *Walking Ollie*" is a bonafide record of work done by me under the guidance of Dr. V. Virgin Nithya Veena, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil and it has not previously formed basis for any award of Degree, Diploma or any other title.

*Shanu*  
Shanu Joans J

2022APE381

Place: Nagercoil

Date: October 2023



## ACKNOWLEDGEMENT

I owe my great gratitude to God Almighty for a gracious blessing, which helped me to work and complete the task of writing this project report.

I am grateful to our Principal Dr. Sr. Sahaya Selvi, for providing this opportunity to undertake this project work.

I am thankful to our Vice Principals Dr. Sr. Leema Rose and Dr. P. Sathya, for helping me with the relevant reference books.

I owe my gratitude to Dr. Alby Grace, the Head Department of English for her constant encouragement and support.

I am deeply grateful to my guide, Dr. V. Virgin Nithya Veena, encouraging me to work on this topic and giving me proper guidance to complete my work in time.

I wish to place on the record the joyful memories I cherish regarding the support I received from my friends and family members.



**Delve into The Paranormal Aspect, Ethnic Culture and Diversity, Indigenous Conflict  
in Sri Lanka, A Study of Shehan Karunatilaka's *The Seven Moons of Maali Almeida***

PROJECT SUBMITTED TO  
HOLY CROSS COLLEGE (AUTONOMOUS)  
IN PARTIAL FULFILMENT OF THE REQUIREMENT  
FOR THE AWARD OF THE DEGREE OF  
MASTER OF ARTS

By

**Priya Roshini. S**

**2022APE377**

Under the guidance of

**Dr. J. Bhavani, M.A., B.Ed., M.Phil., Ph.D.**



PG & RESEARCH DEPARTMENT OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL  
OCTOBER 2023



**DECLARATION**

I hereby declare that this project entitled "Delve The Paranormal Aspect, Ethnic Culture and Diversity, Indigenous Conflict in Sri Lanka, A study of Shehan Karunatilaka's *The Moons of Maali Almeida*" is a bonafide record of work done by me under the guidance Dr. J. Bhavani, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil and it has not previously formed basis for any award of Degree, Diploma or any other title.

*S. Priya Roshini*  
**Priya Roshini. S**

**2022APE377**

Place: Nagercoil

Date: October 2023

## ACKNOWLEDGEMENT

I owe my great gratitude to **God Almighty** for a gracious blessing, which helped me to work and complete the task of writing this project report.

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**The Digital Narratives of the Russo-Ukraine War**

PROJECT SUBMITTED TO  
HOLY CROSS COLLEGE (AUTONOMOUS)  
IN PARTIAL FULFILMENT OF THE REQUIREMENT  
FOR THE AWARD OF THE DEGREE OF  
**MASTER OF ARTS**

By

Nishiha J.

2022APE376

Under the guidance of

**Dr. Subha Ganapathy**



PG & RESEARCH DEPARTMENT OF ENGLISH

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL

OCTOBER 2023

Dr. Subha Ganapathy,

Assistant Professor of English,

Holy Cross College (Autonomous),

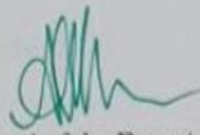
Nagercoil-629004.

**CERTIFICATE**

This is to certify that the project "The Digital Narratives of the Russo-Ukraine War" submitted by Nishiha J. of II MA English Literature is a bonafide project work done during 2023-2024 under my guidance and supervision, and that the project has not previously formed the basis for any award of Degree, Diploma or any other similar title.

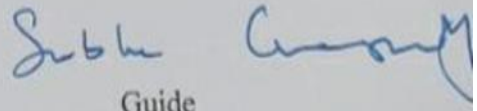
Place: Nagercoil

Date: October 2023



Head of the Department

Dr. ALBY GRACE, M.A., M.Phil., Ph.D.  
(Dr. Alby Grace)  
HEAD OF THE DEPARTMENT  
PG & RESEARCH DEPT. OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629 004

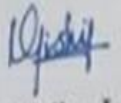


Guide

(Dr. Subha Ganapathy)

**DECLARATION**

I hereby declare that this project titled "The Digital Narratives of the Russo-Ukraine War" is a bonafide record of work done by me under the guidance of Dr. Subha Ganapathy, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil and it has not previously formed the basis for any award of Degree, Diploma or any other title.

  
Nishiha J.

2022APE376

Place: Nagercoil

Date: October 2023



### ACKNOWLEDGEMENT

I would like to express my gratitude to the Almighty for helping me complete the project without any stumbling blocks, and for nourishing me with the physical and intellectual strength to proceed with the chores assigned.

I thank the Holy Cross College for including a project component as part of the M.A. programme, as this venture helped me understand the nuances of research ethics and discipline.

I am grateful to our Principal Dr. Sr. Sahaya Selvi, for providing this opportunity to undertake this project.

I want to convey my appreciation to the PG and Research Department of English for helping the students narrow down and pick a stream of interest, which would have an affirmative impact on their career.

I owe my gratitude to Dr. Alby Grace, the Head Department of English for her constant encouragement and support.

I am deeply grateful to Dr. Subha Ganapathy, for encouraging me to work on this topic and giving me ample ideas to elaborate on the project.

I wish to place on the record the joyful memories I cherish, regarding the support I received from my friends and family members.

**Unveiling the Sufferings of the Marginalized: A Study of Malarvathi's  
*Thooppukkaari***

PROJECT SUBMITTED TO  
HOLY CROSS COLLEGE (AUTONOMOUS)  
IN PARTIAL FULFILMENT OF THE REQUIREMENT  
FOR THE AWARD OF THE DEGREE OF  
MASTER OF ARTS

By

**Nisha. S**      **2022APE375**

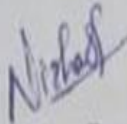
Under the guidance of  
**Dr. H. Jimsy Asha, M.A.,M.Phil., Ph.D.**



**PG & RESEARCH DEPARTMENT OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL  
OCTOBER 2023**

**DECLARATION**

I hereby declare that this project entitled "Unveiling the Sufferings of the Marginalized: A Study of Malarvathi's *Thooppukkaari*" is a bonafide record of work done by me under the guidance of Dr. H. Jimsy Asha, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil and it has not previously formed basis for any award of Degree, Diploma or any other title.

  
**Nisha S**

2022APE375

Place: Nagercoil

Date: October 2023





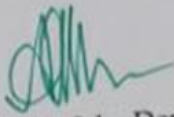
Dr. H. Jimsy Asha,  
Assistant Professor of English,  
Holy Cross College  
(Autonomous), Nagercoil629004.

**CERTIFICATE**

This is to certify that the project "Unveiling the Sufferings of the Marginalized: A Study of Malarvathi's *Thooppukkaari*" submitted by Nisha S of II MA English Literature is a bonafide project work done during 2023-2024 under my guidance and supervision and that the project has not previously formed the basis for the award to the candidates of any Degree, Diploma or any other similar title.

Place: Nagercoil

Date: October 2023



Head of the Department

Dr. ALBY GRACE, M.A., M.Phil., Ph.D.  
(Dr. Alby Grace)  
HEAD OF THE DEPARTMENT  
PG & RESEARCH DEPT OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629 004



Guide

(Dr. H. Jimsy Asha)

### Acknowledgement

I owe my great gratitude to **God Almighty** for a gracious blessing, which helped me to work and complete the task of writing this project report.

I am grateful to our Principal **Dr. Sr. Sahaya Selvi**, for providing this opportunity to undertake this project work.

I am thankful to our Vice Principals **Dr. Sr. Leema Rose** and **Dr. P. Sathya**, for helping me with the relevant reference books.

I owe my gratitude to **Dr. Alby Grace**, the Head Department of English for her constant encouragement and support.

I am deeply grateful to **Dr. H. Jimsy Asha** for encouraging me to work on this topic and giving me proper guidance to complete my work in time.

I wish to place on the record the joyful memories I cherish regarding the support I received from my friends and family members.



**Unveiling The Hidden Truth: A Haunting Secret in Nidhi Upadhyay's *That***

*Night*

PROJECT SUBMITTED TO  
HOLY CROSS COLLEGE (AUTONOMOUS)  
IN PARTIAL FULFILMENT OF THE REQUIREMENT  
FOR THE AWARD OF THE DEGREE OF  
MASTER OF ARTS

By

Nisha M.

2022APE374

Under the guidance of

Dr. Selva Mary Gokila S. George, M.A., M.Phil., Ph.D., CTE., M.A. (JMC), M.Sc (Psy)



PG & RESEARCH DEPARTMENT OF ENGLISH

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL

OCTOBER 2023

DECLARATION

I hereby declare that this project entitled "Unveiling The Hidden Truth: A Haunting Secret in Nidhi Upadhyay's *That Night*" is a bonafide record of work done by me under the guidance of Dr. Selva Mary Gokila S. George, Assistant Professor of English, Holy Cross College (Autonomous), Nagercoil and it has not previously formed basis for any award of Degree, Diploma or any other title.

M. Nisha

Nisha M.

2022APE374

Place: Nagercoil

Date: October 2023

Dr. Selva Mary Gokila S. George,  
Assistant Professor of English,  
Holy Cross College (Autonomous),  
Nagercoil-629004.

**CERTIFICATE**

This is to certify that the project "**Unveiling The Hidden Truth: A Haunting Secret in Nidhi Upadhyay's *That Night***" submitted by Nisha M. of II MA English Literature is a bonafide project work done during 2023-2024 under my guidance and supervision and that the project has not previously formed the basis for the award to the candidates of any Degree, Diploma or any other similar title.


Place: Nagercoil

Date: October 2023



Head of the Department

Dr. ALBY GRACE, M.A., M.Phil., Ph.D.  
(Dr. Alby Grace)  
HEAD OF THE DEPARTMENT  
PG & RESEARCH DEPT. OF ENGLISH  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629 004



Guide

(Dr. Selva Mary Gokila S. George)

### Acknowledgement

I owe my great gratitude to God Almighty for a gracious blessing, which helped me to work and complete the task of writing this project report.

I am grateful to our Principal Dr. Sr. Sahaya Selvi, for providing this opportunity to undertake this project work.

I am thankful to our Librarian and Dr. P. Sathya, for helping me with the relevant reference books.

I owe my gratitude to Dr. Alby Grace, the Head Department of English for her constant encouragement and support.

I am deeply grateful to Dr. Selva Mary Gokila S. George, for encouraging me to work on this topic and giving me proper guidance to complete my work on time.

I wish to place on the record the joyful memories I cherish regarding the support I received from my friends and family members.

**DEPARTMENT OF ENGLISH (S.F)**

**The Nexus of Marital Life in Amulya Malladi's**

*A Breath of Fresh Air*

**PROJECT SUBMITTED TO**

**Holy Cross College (Autonomous), Nagercoil**

**[Affiliated to Manonmaniam Sundaranar University]**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE AWARD OF THE DEGREE OF MASTER OF ARTS**

Submitted by

**Name**

**Reg. No**

Selva Nayahi . S

2022SPE186

Under the guidance of

**Ms.K. MIHI NANCY, M.A., MPhil, SET**



**Department of English (SF)**

**Holy Cross College (Autonomous), Nagercoil**

**October 2023**

*Selva Nayahi*  
External Examiner



**CERTIFICATE**

This is to certify that the project entitled **The Nexus of Marital Life in Amulya Malladi's *A Breath of Fresh Air*** submitted by Selva Nayahi . S is a research work done during 2023-2024 under my supervision and guidance and that the project has not previously formed its basis for the award to the candidate of any degree, diploma, fellowship or any other similar title.

I also certify that this project represents complete independent work on the part of the candidates.

**Place: Nagercoil**

**Date: October 2023**

**Head of the Department**



**(Mrs. M. Maria Helen Janoba)**

**Guide**



**(Ms. Mihi Nancy. K)**

**DEPARTMENT OF ENGLISH (C)**  
**PG & MPhil**  
**Mary Cross College (Autonomous)**  
**Nagercoil 629 006**





**DECLARATION**

This project entitled **The Nexus of Marital Life in Amulya Malladi's *A Breath of Fresh Air*** is my original and independent work, submitted to Holy Cross College (Autonomous), Nagercoil [Manonmaniam Sundaranar University] in partial fulfilment of the requirements for the M.A. Degree in English Literature. I hereby declare that the facts are genuine and not based on any other research work.

**Name**

**Reg. No**

**Signature**

Selva Nayahi . S

2022SPE186



**Place: Nagercoil**

**Date: October 2023**



***Red, White & Royal Blue: A Queer Royal Tale***

**PROJECT SUBMITTED TO**

**Holy Cross College (Autonomous), Nagercoil**  
**[Affiliated to Manonmaniam Sundaranar University]**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR**  
**THE AWARD OF THE DEGREE OF MASTER OF ARTS**

Submitted by

**Name**

Pearlin Princey M

**Reg. No**

2022SPE181

Under the guidance of

**Ms. V J Maxlin M.A., MPhil, DMC.**



**Department of English (SF)**

**Holy Cross College (Autonomous), Nagercoil**

**October 2023**

*S. Chy: 31/10/2023*  
**External Examiner**



**CERTIFICATE**

This is to certify that the project entitled *Red, White & Royal Blue: A Queer Royal Tale* submitted by Pearlín Princey M is a research work done during 2023-2024 under my supervision and guidance and that the project has not previously formed its basis for the award to the candidate of any degree, diploma, fellowship or any other similar title.

I also certify that this project represents complete independent work on the part of the candidates.

**Place: Nagercoil**

**Date: October 2023**

**Head of the Department**

  
Department of English (S.F.)  
**(Mrs. M. Maria Helen Janoba)**

Holy Cross College,  
Nagercoil - 629 004.

  
**Guide**

**(Ms. V J Maxlin)**

**DECLARATION**

This project entitled *Red, White & Royal Blue: A Queer Royal Tale* is my original and independent work, submitted to Holy Cross College (Autonomous), Nagercoil [Manonmaniam Sundaranar University] in partial fulfilment of the requirements for the M.A. Degree in English Literature. I hereby declare that the facts are genuine and not based on any other research work.

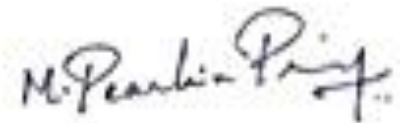
**Name**

**Reg. No**

**Signature**

Pearlin Princey M

2022SPE181



**Place: Nagercoil**

**Date: October 2023**



**Psychological Outlook and Quest for Identity in  
Delia Owens' *Where the Crawdads Sing***

**PROJECT SUBMITTED TO**

**Holy Cross College (Autonomous), Nagercoil  
[Affiliated to Manonmaniam Sundaranar University]**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE AWARD OF THE DEGREE OF MASTER OF ARTS**

Submitted by

**Name**

**Reg. No**

Aysha Siddikha, S

2022SPE174

Under the guidance of

**Mrs. M. Maria Helen Janoba M.A., B.Ed., M.Phil., DIJ, DCA, MFC, SET**



**Department of English (SF)**

**Holy Cross College (Autonomous), Nagercoil**

**October 2023**



**CERTIFICATE**

This is to certify that the project entitled **Psychological Outlook and Quest for Identity in Delia Owens' *Where the Crawdads Sing*** submitted by Aysha Siddikha S. This is a research work done during 2023-2024 under my supervision and guidance and that the project has not previously formed its basis for the award to the candidate of any degree, diploma, fellowship or any other similar title.

I also certify that this project represents complete independent work on the part of the candidate.

**Place: Nagerecoil**

**Date: October 2023**

**Head of the Department**



**(Mrs. M. Maria Helen Janoba)**

**Guide**



**(Mrs. M. Maria Helen Janoba)**



**Niles Dark Secrets: A Journey into Murder Mystery and Legal**

**Intricacies in Agatha Christie's *Death on the Nile***

**PROJECT SUBMITTED TO**

**Holy Cross College (Autonomous), Nagercoil  
[Affiliated to Manonmaniam Sundaranar University]**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE AWARD OF THE DEGREE OF MASTER OF ARTS**

Submitted by

**Name**

**Reg. No**

Remona. B

2022SPE184

Under the guidance of

**Mrs. S. Divya Margret, M.A., M. Phil., B. Ed., NET.**



**Department of English (SF)**

**Holy Cross College (Autonomous), Nagercoil**

**October 2023**

*Sl. No. 131/10/2023*  
**External Examiner**



## CERTIFICATE

This is to certify that the project entitled **Niles Dark Secrets: A Journey into Murder Mystery and Legal Intricacies in Agatha Christie's Death on the Nile** submitted by Remona. B is a research work done during 2023-2024 under my supervision and guidance and that the project has not previously formed its basis for the award to the candidate of any degree, diploma, fellowship or any other similar title.

I also certify that this project represents complete independent work on the part of the candidates.

**PLACE: Nagercoil**

**DATE: October 2023**

**Head of the Department**

  
Department of English (S.F.)  
**(Mrs. M. Maria Helen Janoba)**

  
Guide

**(Mrs. S. Divya Margret)**





**DECLARATION**

This project entitled **Niles Dark Secrets: A Journey into Murder Mystery and Legal Intricacies in Agatha Christie's Death on the Nile** is my original and independent work, submitted to Holy Cross College (Autonomous), Nagercoil [Manonmaniam Sundaranar University] in partial fulfilment of the requirements for the M.A. Degree in English Literature. I hereby declare that the facts are genuine and not based on any other research work.

**Name**

**Reg. No**

**Signature**

Remona. B

2022SPE184



**PLACE: Nagercoil**

**DATE: October 2023**



**Subaltern Struggles and Multicultural Ethos: An  
Uncovering Untold Stories in *And the Mountains Echoed***

**PROJECT SUBMITTED TO**

**Holy Cross College (Autonomous), Nagercoil  
[Affiliated to Manonmaniam Sundaranar University]**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE AWARD OF THE DEGREE OF MASTER OF ARTS**

Submitted by

**Name**

**Reg. No**

Divyaha Ancy, K

2022SPE185

Under the guidance of

**Mrs. S. DivyaMargret, M.A., B.Ed., MPhil, NET**



**Department of English (SF)**

**Holy Cross College (Autonomous), Nagercoil**

**October 2023**

*Signature: 31/10/2023*  
**External Examiner**



**CERTIFICATE**

This is to certify that the project entitled *Subaltern Struggles and Multicultural Ethos: An Uncovering Untold Stories in And the Mountains Echoed* submitted by Sahaya Ancy K. This is a research work done during 2023-2024 under my supervision and guidance and that the project has not previously formed its basis for the award to the candidate of any degree, diploma, fellowship or any other similar title.

I also certify that this project represents complete independent work on the part of the candidate.

**Place: Nagercoil**

**Date: October 2023**

**Head of the Department**



**(Mrs. M. Maria Helen Jacob)**  
Holy Cross College (Autonomous)  
Nagercoil - 629 004.

  
Guide

**(Mrs. S. Divya Margret)**

## DECLARATION

This project entitled *Subaltern Struggles and Multicultural Ethos: An Uncovering Untold Stories in And the Mountains Echoed* is my original and independent work, submitted to Holy Cross College (Autonomous), Nagercoil [Manonmaniam Sundaranar University] in partial fulfilment of the requirements for the M.A. Degree in English Literature. I hereby declare that the facts are genuine and not based on any other research work.

**Name**

Sahaya Ancy K

**Reg. No**

2022SPE185

**Signature**



**Place: Nagercoil**

**Date: October 2023**



DEPARTMENT OF HISTORY

# LEMUR BEACH – A STUDY

Project work submitted to  
Holy Cross College (Autonomous), Nagercoil  
For the partial fulfillment of degree of

**MASTER OF ARTS IN HISTORY**

Submitted by

Sathiya S. 2022SPH282  
Catherin Vikasini S. 2022SPH298

Under the Guidance of  
**Dr. S. MARY JUDIT**



Department of History  
Holy Cross College (Autonomous),  
Nagercoil -629004  
October – 2023



## DECLARATION

We, Catherin Vikasini S., and Sathiya S., the second year M.A History students of Holy Cross College (Autonomous), Nagercoil hereby declare that this project work entitled “**LEMUR BEACH – A STUDY**”, done under the guidance and supervision of Dr. S. Mary Judit, Assistant Professor, Department of History, Holy Cross College (Autonomous), Nagercoil. It has not been submitted for any other degree of fellowship or associateship in any other University or Institutions of higher education.

Place : *Nagercoil*

Date :

Name	Register Number	Signature
Sathiya S.	2022SPH282	<i>S. Sathiya</i>
Catherin Vikasini S.	2022SPH298	<i>S. Catherin Vikasini</i>



# HISTORICAL PLACES IN KANYAKUMARI DISTRICT

*Project work submitted to  
Holy Cross College (Autonomous), Nagercoil,  
For the partial fulfilment of the degree of*

## MASTER OF ARTS IN HISTORY

*Submitted by*  
Asha. R 2022SPH164  
Preetha. S 2022SPH313

Under the Guidance of  
Dr.S.Mary Judit



Department of History  
Holy Cross College (Autonomous),  
Nagercoil - 629004  
October - 2023

## CERTIFICATE

This is to certify that this project work entitled “**HISTORICAL PLACES IN KANYAKUMARI DISTRICT**” done by the second year M.A.History students, S. Preetha and R. Asha during the academic year 2022-2023 for the degree Masters of Arts in history under my supervision and guidance. Further, it has not been submitted for any other degree or associateship in any other University or Institutions of higher education.

Place : Nagercoil

Date :



Signature of the Guide



31/10/2023

Signature of External

**DR. B. SREEDHAR**, M.A.(Hist.), M.A.(PolSci)  
M.A.(TM) Dip (Arch & Epic.), M.Ed., M.Phil., Ph.D.  
ASSISTANT PROFESSOR  
DEPARTMENT OF HISTORY AND  
RESEARCH CENTRE  
S.T. HINDU COLLEGE, NAGERCOIL - 629 002

Signature of The  
  
H.O.D

**Dr. I. JALAJA KUMARI**  
Assistant Professor & Head  
Department of History  
Holy Cross College (Autonomous)  
Nagercoil - 629004

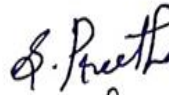



## DECLARATION

We., S. Preetha and R. Asha the second year M.A.History students of Holy Cross College (Autonomous), Nagercoil, herdeby declare that this project work entitled "**HISTORICAL PLACES IN KANYAKUMARI DISTRICT**", done under the guidance and supervision of Dr.S.Mary Judit, Assistant Professor, Department of History, Holy Cross College (Autonomous), Nagercoil. It has not been submitted for any other degree of fellowship or associateship in any other University or Institution of higher education.

Place : Nagercoil

Date :

Name of the Student	Register Number	Signature
Preetha. S	2022SPH164	
Asha. R	2022SPH313	



# ***THOOTHOR VILLAGE - A STUDY***

*Project submitted to Holy Cross College (Autonomous),  
Nagercoil in partial fulfillment of the requirements for the  
award of the degree of*

## ***MASTER OF ARTS IN HISTORY***

Submitted by

**Jenisha Jerald. J    2022SPH250**

**Nishanthini. V        2022SPH251**

Under the Guidance of

**Dr.R.Suji**



**DEPARTMENT OF HISTORY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL -629004**

**2023-2024**



CERTIFICATE

This is to certify that this Project work entitled **THOOTHIOOR VILLAGE – A STUDY** done by the second year M.A. History student, Jenisha Jerald.J, Nishanthini.V during the academic year 2023-2024 for the degree of Master of Arts in History, under the supervision and guidance. Further, it has not been submitted for any other degree or fellowship of associateship in any other university or institution of higher education.

Place: *Nagercoil*

Date: *30-10-2023*



Signature of the Guide



Signature of External Examiner



Signature of the H.O.D

**DR. B. SHEEBA KUMARI, M.A.(H), M.Ed, Ph.D.**  
M.A.(T.M) Dip (Arch & Pale) M.Ed. M.Phil., Ph.D.  
ASSISTANT PROFESSOR  
DEPARTMENT OF HISTORY AND  
S.T. HINDU COLLEGE, NAGERCOIL - 629 002

**Dr. I. JALAJA KUMARI**  
Assistant Professor & Head  
Department of History  
Holy Cross College (Autonomous)  
Nagercoil - 629004

## DECLARATION

We, Jenisha Jerald. J and Nishanthini. V the second year M.A. History students of Holy Cross College (Autonomous), Nagercoil, hereby declare that this project work entitled THOOTHOOR VILLAGE - A STUDY, done under the guidance and supervision of Dr.R.Suji , Assistant Professor , Department of History, Holy Cross College (Autonomous), Nagercoil.

Place: Nagercoil

Date: 30.10.2023

### Signature of the Students

Name	Register Number	Signature
Jenisha Jerald.J	2022SPH1250	Jenisha Jerald.J
Nishanthini.V	2022SPH1251	Nishanthini.V



***ART AND ARCHITECTURE UNDER TRAVANCORE  
KINGS IN KANYAKUMRI DISTRICT***

*Project submitted to Holy Cross College (Autonomous),  
Nagercoil in partial fulfillment of the requirements for the  
award of the degree of*

***MASTER OF ARTS IN HISTORY***

**Submitted by**

**A.H. Bhagawathi                      2022SPH165**

**S. Doni Grace                            2022SPH299**

Under the Guidance of

**Dr.R.Suji**



**DEPARTMENT OF HISTORY**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL -629004**

**2023-2024**

## CERTIFICATE

This is to certify that this project work entitled **ART AND ARCHITECTURE UNDER TRAVANCORE KINGS IN KANYAKUMARI DISTRICT** done by the second year M.A. History students, A.H.Bhagawathi, S.Doni Grace during the academic year 2023-2024 for the degree of Master of Arts in History, under the supervision and guidance. Further, it has not been submitted for any other degree or fellowship of associateship in any other university or institution of higher education.

Place : Nagercoil

Date : 30.10.2023



Signature of the Guide



31/10/2023

Signature of External Examiner

**DR. B. SHEEBA KUMARI, MA (Hist.), MA (Arts),  
M.A.(TM) Dip (Arch & Envic), M.Ed., M.Phil., Ph.D.,  
ASSISTANT PROFESSOR  
DEPARTMENT OF HISTORY AND  
ARTS  
& T. HILARY COLLEGE, NAGERCOIL - 629 002**



Signature of the H.O.D

**Dr. I. JALAJA KUMARI**  
*Assistant Professor & Head*  
Department of History  
Holy Cross College (Autonomous)  
Nagercoil - 629004

## DECLARATION

We, A.H.Bhagawathi and S.Doni Grace the second year M.A. History student of Holy Cross College (Autonomous), Nagercoil, hereby declare that this project work entitled **ART AND ARCHITECTURE UNDER TRAVANCORE KINGS IN KANYAKUMARI DISTRICT**, Done under the guidance and supervision of **Dr.R.Suji**, Assistant Professor, Department of History, Holy Cross College (Autonomous), Nagercoil.

Place :Nagercoil

Date : 30.10.2023

**Name of the Students**

**Register Number**

**Signature**

A.H.Bhagawathi

2022SPH165

A. H. Bhagawathi

S.Doni Grace

2022SPH299

S. Doni Grace



# **SOCIO- ECONOMIC AND CULTURAL HISTORY OF SOUTH TRAVANCORE (1858 -1956)**

*Project work submitted to*  
*Holy Cross College (Autonomous), Nagercoil,*  
*For the partial fulfilment of the degree of*  
**MASTER OF ARTS IN HISTORY**

*Submitted by*

**W. Steni Remshya      2022SPH166**

**M. Abitha                2022SPH304**

**Under the Guidance of  
Dr. C.R. SIVAKALA**



**DEPARTMENT OF HISTORY  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL-629 004  
OCTOBER - 2023**



## CERTIFICATE

This is to certify that this project work entitled “SOCIO-ECONOMIC CULTURAL HISTORY OF SOUTH TRAVANCORE (1858-1956)-A STUDY” done by the second year M.A. History Students, W. Steni Remshya and M. Abitha during the academic year 2022-2024 for the degree of Masters of Arts in History, under my supervision and guidance. Further, it has not been submitted for any other degree or associateship in any other University or Institutions of Higher Education.

Place: Nagercoil


Date: 30/10/2023

  
Signature of the Guide 30/10/2023

Name of the Students Register Number

W. Steni Remshya 2022SPH1168

M. Abitha 2022SPH304

  
Signature of External Examiner 31/10/2023

**DR. B. SHEEBA KUMARI, MA (H. & A.), M.A. (H. & A.), M.A. (T.M.) Dip (Arch & Epic), M.Ed., M.Phil., Ph.D.**  
ASSISTANT PROFESSOR  
DEPARTMENT OF HISTORY AND  
RESEARCH CENTRE  
S.T. HINDU COLLEGE, NAGERCOIL - 629 002

  
Signature of the HOD

**Dr. I. JALAJA KUMARI**  
Assistant Professor & Head  
Department of History  
Holy Cross College (Autonomous)  
Nagercoil - 629004

## DECLARATION

We, W. Steni Remshya and M. Abitha the second year M.A. History students of Holy Cross College (Autonomous), Nagercoil, hereby declare that this project work entitled “**SOCIO- ECONOMIC AND CULTURAL HISTORY OF SOUTH TRAVANCORE (1858-1956)**”, done under the guidance and supervision of Dr. C.R. Siva Kala, Assistant Professor, Department of History, Holy Cross College (Autonomous), Nagercoil. It has not been submitted for any other degree of fellowship or associateship in any other University or Institutions of higher education.

Place: Nagercoil

Date: 30/10/2023

**Name of the Students**

**Register Number**

**Signature**

W. Steni Remshya

2022SPH166

W. Steni Remshya

M. Abitha

2022SPH304

M. Abitha.



**DEPARTMENT OF ECONOMICS**

**A STUDY ON SOCIO-ECONOMIC CONDITION OF AARI  
WORKERS IN NAGERCOIL CORPORATION OF  
KANNIYAKUMARI DISTRICT**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil  
in partial fulfilment for the award of the degree of*

**MASTER OF ARTS**

*Under the Guidance of*

**Dr. A. BABILA KINGSLY, M.A., M.Phil., Ph.D.**

Submitted by

**Ms. M. AFRIN**

**Reg. No. 2022SPF168**

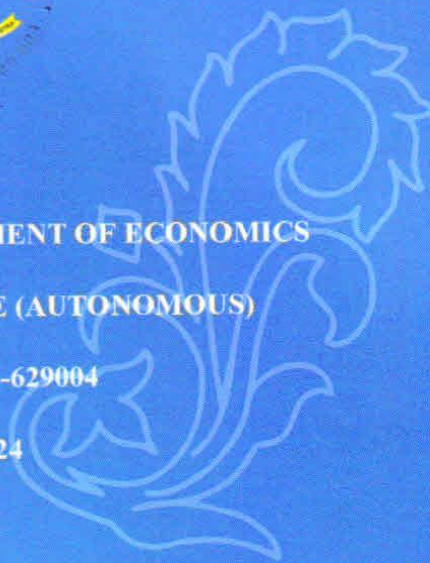


**PG & RESEARCH DEPARTMENT OF ECONOMICS**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**2023-2024**



## CERTIFICATE

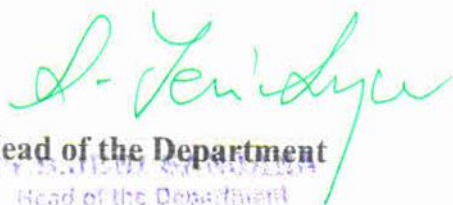
I hereby certify that the project report entitled “A STUDY ON SOCIO-ECONOMIC CONDITION OF AARI WORKERS IN NAGERCOIL CORPORATION OF KANNIYAKUMARI DISTRICT” was done by M. Afrin to Holy Cross College (Autonomous), Nagercoil for the award of Master of Arts is a bonafide record work done by her under my supervision. The report represents entirely an independent original work of the candidate.

Place: Nagercoil


Date: 30-10-2023



Supervisor



**Head of the Department**  
Head of the Department  
Department of Geography  
Holy Cross College (Autonomous)  
Nagercoil.



**External Examiner**



## DECLARATION

I hereby declare that the project work entitled “A STUDY ON SOCIO-ECONOMIC CONDITION OF AARI WORKERS IN NAGERCOIL CORPORATION OF KANNIYAKUMARI DISTRICT” being submitted to Holy Cross College (Autonomous), Nagercoil is an original work. I hereby declare that the facts are genuine and not based on any other research project.

Place: Nagercoil

*M. Azin,*  
Signature of the candidate

Date: 30-10-2023,

## ACKNOWLEDGEMENT

I thank and praise the Lord Almighty for His tender mercy and grace, which He showered upon me to complete my research study.

I owe a deep sense of gratitude to my guide **Dr. A. Babila Kingsly, M.A., M.Phil., Ph.D.** PG & Research Department of Economics, for her valuable support and suggestions to carry out my project.

I extend my special thanks to our college principal **Dr. Sr. S. Sahayaselvi** Holy Cross College (Autonomous), Nagercoil for providing an opportunity to study in this reputed institution.

I take this opportunity to thank **Dr. S. Jeni Sanjana M.A., M.Phil., M.B.A., Ph.D., HDCA,** Head of the Department of Economics and all the staff members of Economics Department for their encouragement and support to carry out my study..

My hearty thanks to my parents and friends who directly and indirectly helped me for the completion of my project.

I am grateful to thank Rahul Net Computer Center, for computerizing the project nearly on time.

Thanks to all those who have helped me for the completion of my project.

**M. AFRIN**

**A STUDY ON THE SOCIO ECONOMIC CONDITIONS OF A  
SINGLE CHILD WITH SPECIAL REFERENCE TO NAGERCOIL  
CORPORATION**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil in  
partial fulfillment for the award of the degree of*

**MASTER OF ARTS**

*Under the Guidance of*

**Dr. J.M. Vinitha Charles, M.A., M.Phil., Ph.D.**

Submitted by

**Ms. R. Vibisha**

Reg. No.2022SPF171

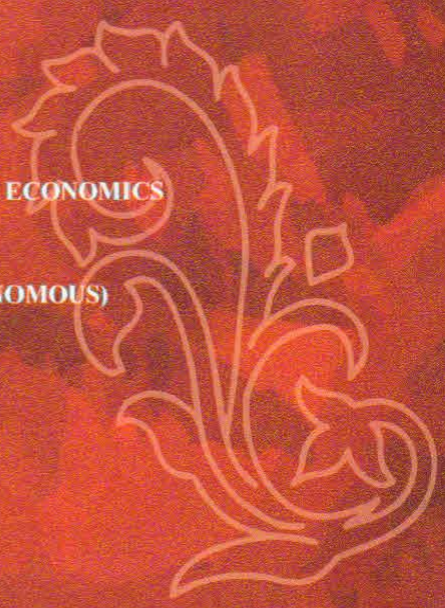


**PG & RESEARCH DEPARTMENT OF ECONOMICS**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**2023-2024**




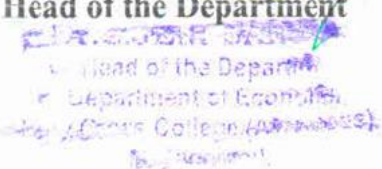
**CERTIFICATE**

I hereby certify that the project entitled "A STUDY ON THE SOCIO ECONOMIC CONDITIONS OF A SINGLE CHILD WITH SPECIAL REFERENCE TO NAGERCOIL CORPORATION" was done by R.VIBISHA to Holy Cross College (Autonomous), Nagercoil for the award of Master of Economics is a bonafide record work done by here under my supervision. The report represents entirely an independent original work of the candidate.

Place: Nagercoil

  
30/10/23  
Supervisor

Date: 30-10-2023

  
**Head of the Department**  
  
Head of the Department  
Department of Economics  
Holy Cross College (Autonomous)  
Nagercoil

  
**External Examiner**





## DECLARATION

I hereby declare that the project work entitled "A STUDY ON THE SOCIO ECONOMIC CONDITIONS OF A SINGLE CHILD WITH SPECIAL REFERENCE TO NAGERCOIL CORPORATION" being submitted to Holy Cross College (Autonomous), Nagercoil is an original work. I hereby declare that the facts are genuine and not based on any other research paper.

Place: Nagercoil

*R.vibisha.*  
Signature of the Candidate

Date: 30-10-2023

## ACKNOWLEDGEMENT

I thank and praise the Lord Almighty for His tender mercy and grace, which he showered upon me to complete my research study.

I owe a deep debt of gratitude to my guide **Dr. J.M.VINITHA CHARLES, M.A, M.Phil., Ph.D.,** P.G & Research Department of Economics, Holy Cross College, Nagercoil who provided necessary guidance for my work.

I extend my special thanks to our college principal **Dr. Sr. S. Sahayaselvi** Holy Cross College (Autonomous), Nagercoil for providing an opportunity to study in this reputed institution.

I take this opportunity to thank **Dr. S. JENI SANJANA M.A., M.Phil., M.B.A., Ph.D., HDCA** Head of the Department of Economics and all the staff members of Economics Department for their encouragement and support to carry out my study.

My hearty thanks also goes to my **parents and friends** who directly and indirectly helped me for the completion of my project.

I am grateful to thank Ragul Computer centre, Kurusady for computerizing the project neatly on time.

Thanks to all those who have helped me for the completing of my project.

**R.VIBISHIA**

**AN ECONOMIC STUDY ON MIGRANT RIG WORKERS IN  
VADAKKANKULAM VILLAGE OF TIRUNELVELI DISTRICT**

*A project report submitted to Holy Cross College (Autonomous), Nagercoil  
Affiliated to Manonmaniam Sundaranar University in partial Fulfillment for the  
requirements of the degree of*

**MASTER OF ARTS**

Under the guidance of  
**Dr. S. Vimal Dolli, M.A., M.Phil., Ph.D.**

Submitted by

**BRINDHA.G**

**Reg. No. 2022SPF169**



**PG & RESEARCH DEPARTMENT OF ECONOMICS  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL – 629004**

**2023 – 2024**



## DECLARATION

We hereby state that this project titled "AN ECONOMIC STUDY ON  
MIGRANT RIG WORKERS IN VADAKKANKULAM VILLAGE OF  
TRUNELVELI DISTRICT" being submitted to Holy Cross College  
(Autonomous), Nagercoil is an original work. We hereby declare that the facts are  
genuine and not based on any other research project.

Place: Nagercoil

*Cr. Brindha.*  
Signature of the Candidates

Date: 30-10-2023



## ACKNOWLEDGEMENT

I thank and praise the Lord Almighty for His tender mercy and grace, which ~~He~~ showered upon us to complete our research Study.

I take this opportunity to thank our beloved principal **Dr. Sr. Sahayaselvi M.A., M.Phil., Ph.D.**, Holy Cross College for constant encouragement to complete the study.

I take this opportunity to thank **Dr. S. JENI SANJANA, M.A., M.Phil., M.B.A., Ph.D., HDCA** Head of the Department of Economics and all the staff members of the Economics Department for their encouragement and support.

I owe a deep debt of gratitude to our guide **Dr. S.Vimal Dolli, M.A., M.Phil., Ph.D.**, Department of Economics for having provided necessary guidance in our work.

My hearty thanks also go to our **parents and friends** who directly and indirectly helped us for the completion of our project.

I am grateful to thank Alpha Xerox Computer Centre, Nagercoil for computerizing the project neatly on time.

Thanks to all those who helped in completing my project.

G. BRINDHA.



**A STUDY ON THE ECONOMIC AND HEALTH CONDITION OF  
WOMEN BEEDI WORKERS WITH SPECIAL REFERENCE TO  
RADHAPURAM TOWN.**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil,  
in partial fulfillment for the award of the degree of*

**MASTER OF ARTS**

Under the guidance of

**Dr. A.SAMEEMA, M.A., M.Phil., HDCA., Ph.D.**  
*Submitted by,*

**LAVINA PETER MARIA**

Reg.No. 2022SPF170



**PG & RESEARCH DEPARTMENT OF ECONOMICS  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629 004**

2023-2024

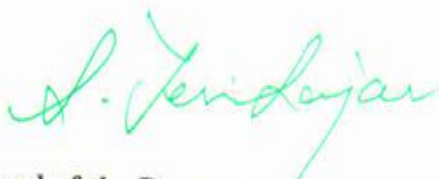
**CERTIFICATE**

I hereby certify that the project entitled "A STUDY ON THE ECONOMIC AND HEALTH CONDITION OF WOMEN BEEDI WORKERS WITH SPECIAL REFERENCE TO RADHAPURAM TOWN" was done by LAVINA PETER MARIA to Holy Cross College (Autonomous), Nagercoil, for the award of Master of Economics is a bonafide record work done by her under my supervision. The report represents entirely an independent original work of the candidates.

**Place: Nagercoil**

  
**Supervisor**

**Date: 30/10/2023**



**Head of the Department**

**Dr. S. JENI SANJANA**  
Head of the Department  
Department of Economics  
Holy Cross College (Autonomous)  
Nagercoil.

  
**External Examiner**





## DECLARATION

I hereby declare that the project work entitled "A STUDY ON THE ECONOMIC AND HEALTH CONDITION OF WOMEN BEEDI WORKERS WITH SPECIAL REFERENCE TO RADHAPURAM TOWN" being submitted to Holy Cross College (Autonomous), Nagercoil is an original work. I hereby declare that the facts are genuine and not on any other research project.

Place: Nagercoil

Date: 30/10/2023

*Lavina P*  
Signature of the Candidate

## ACKNOWLEDGEMENT

I thank and praise the Lord Almighty for his tender mercy and grace, which he showered upon me to complete my research study.

I owe a deep debt of gratitude to my guide **Dr.A.Sameema,M.A., M.Phil. , HDCA., Ph.D.** PG & Research Department of Economics, Holy Cross College (Autonomous). Nagercoil who provided necessary guidance for my work

I extend my special thanks to the principal **Dr.Sr.S.Sahayaselvi, M.Com. M.Phil. Ph.D.** Holy Cross College (Autonomous) for providing an opportunity to study in this reputed institution.

I take this opportunity to thank **Dr.S.Jeni Sanjana, M.A., M.Phil., M.B.A., Ph.D., HDCA** Head of the Department of Economics and all the staff members of Economics Department for their encouragement and support to carry out my study:

My hearty thanks to my **parents and friends** who directly and indirectly helped me for the completion of my project.

I am grateful to thank **Priya** Computer centre, Nagercoil for computerizing the project neatly on time

Thanks to all those who helped in completing my project.

**LAVINA PETER MARIA**



**DEPARTMENT OF COMMERCE (S.F-I)**

**A STUDY ON CUSTOMER'S SATISFACTION TOWARDS  
HEALTH INSURANCE POLICIES IN NAGERCOIL TOWN**

**Submitted to**

**Holy Cross College (Autonomous), Nagercoil**

**In partial fulfilment of the requirements for the award of the  
degree of**

**MASTER OF COMMERCE**

**Submitted by**

**S.SAHAYA ABISHA      2022SPA210**

**Under the Guidance of**

**Dr.C.K. SUNITHA, M. Com.M. Phil, HDCM, HDCA, Ph.D.**



**DEPARTMENT OF COMMERCE  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL – 629004**

**OCTOBER – 2023**

Dr.C.K. SUNITHA, M. Com, M.Phil., HDCM, HDCA, Ph.D.,  
Assistant Professor of Commerce,  
Department of Commerce,  
Holy Cross College (Autonomous)  
Nagercoil – 629004.

**CERTIFICATE**

This is to certify that the project work entitled “A STUDY ON CUSTOMER’S SATISFACTION TOWARDS HEALTH INSURANCE POLICIES IN NAGERCOIL TOWN” is a bonafide record of the work done by S. SAHAYA ABISHA under my supervision and guidance and submitted in partial fulfilment of the requirement for the degree of Master of Commerce. It has not been submitted for the award of any degree, diploma, or any similar title.

Place: Nagercoil

Date: 27/10/2023

*C.K. Sunitha*  
Supervisor



Head of the Department

Dr. R. Evalin Latha, M.Com., M.Phil., Ph.D.  
Head of the Department of Commerce (SF-I)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004



External Examiner

Dr. P.V. LAL WILSON  
HEAD & ASSOCIATE PROFESSOR  
Dept. of Commerce & Research Centre  
N.M. Christian College, Marthandam.

S. SAHAYA ABISHA (2022SPA210)

Department of Commerce

Holy Cross College (Autonomous)

Nagercoil - 629004

### DECLARATION

I hereby declare that the project work entitled "A STUDY ON CUSTOMER'S SATISFACTION TOWARDS HEALTH INSURANCE POLICIES IN NAGERCOIL TOWN" submitted to Holy Cross College (Autonomous), Nagercoil for the second year under the guidance of Dr.C.K. SUNITHA Assistant Professor of Commerce. It has not been previously done for the award of any other degree or diploma.

Place: Nagercoil

Date: 27/10/2023

Submitted by  
*Abisha*  
S. Sahaya Abisha



**A STUDY ON PASSENGERS SATISFACTION TOWARDS  
RAILWAY E-TICKET RESERVATION IN NAGERCOIL**

A study Report Submitted to

**Holy Cross College (Autonomous), Nagercoil**

In partial fulfillment of the requirement for the award of the degree of

**MASTER OF COMMERCE**

Submitted by

**Gracy Klymancia. S - 2022SPA197**

Under the guidance of

**Dr. M. Charles Dayana, M.com., M.Phil., Ph.D.**



**DEPARTMENT OF COMMERCE**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**OCTOBER-2023**

**Dr.M. Charles Dayana, M .Com., M. Phil., Ph.D.**  
Assistant Professor,  
Department of Commerce,  
Holy Cross College (Autonomous),  
Nagercoil-629004.

**CERTIFICATE**

This is to certify that the project work entitled “**A Study on Passengers Satisfaction Towards Railway E-Ticket Reservation In Nagercoil**” is a bonafide research work done by **Gracy Klymancia. S** under my supervision and guidance and submitted in partial fulfillment of the requirements for the Degree of Master of Commerce. It has not formed the basis for the award of any degree, diploma, or any other similar title.

Place: Nagercoil

Date: 30/10/2023

*M. Dayana*  
Supervisor

*[Signature]*  
Head of the Department

**Dr. R. Evalin Latha, M.Com., M.Phil., Ph.D.**  
Head of the Department of Commerce (SF-1)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

*[Signature]*  
31/10/23 Examiner

**Dr. P.V. LAL WILSON**  
HEAD & ASSOCIATE PROFESSOR  
Dept. of Commerce & Research Centre  
N.M. Christian College, Marthandam.

## DECLARATION

I hereby declare that, the project work entitled "A Study on Passengers Satisfaction Towards Railway E-Ticket Reservation In Nagercoil" submitted to Holy Cross College (Autonomous), Nagercoil for the final year post Graduate study, it is an original work done under the guidance of **Dr. M. Charles Dayana**, Assistant Professor in Commerce, Holy Cross College (Autonomous). It has not been previously done for the award of any other degree or diploma.

Place: Nagercoil

Date: 30/10/2023

*D. Klymanica*

Submitted by

GRACY KLYMANCIA.S

*G.*



**A STUDY ON CUSTOMERS SATISFACTION TOWARDS  
BUYING AGRICULTURAL PRODUCTS**

A study Report Submitted To

**Holy Cross College (Autonomous), Nagercoil**

*In partial fulfillment of the requirement for the award of the degree of*

**MASTER OF COMMERCE**

Submitted by

**S. Sahaya Celshiya – 2022SPA211**

Under the guidance of

**Dr. R. Sreedevi, M.Com., M.Phil., Ph.D.**



**DEPARTMENT OF COMMERCE  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**OCTOBER-2023**

**DR.R. SREEDEVI, M.Com.,M.phil.,Ph.D,**

Assistant Professor,

Department of Commerce,

Holy Cross College (Autonomous),

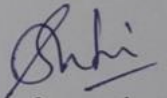
Nagercoil-629004.

### CERTIFICATE

This is to certify that the project work entitled “**A Study on customers satisfaction towards buying Agricultural Products**” is a bonofide research work done by **S.Sahaya Celshiya** under my supervision and guidance and submitted in partial fulfillment of the requirements for the Degree of Master of Commerce. It has not formed the basis for the award of any degree, diploma, or any other similar title.

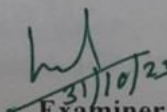
Place: Nagercoil

Date: 30-10-2023

  
Supervisor

  
Head of the Department

**Dr. R. Evalin Latha, M.Com.,M.Phil.,Ph.D.**  
Head of the Department of Commerce (SF-1)  
Holy Cross College (Autonomous)  
Nagercoil - 629 004

  
Examiner

**Dr. P.V. LAL WILSON**  
HEAD & ASSOCIATE PROFESSOR  
Dept. of Commerce & Research Centre  
N.M. Christian College, Marthandanam

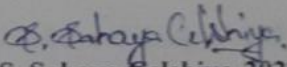
**DECLARATION**

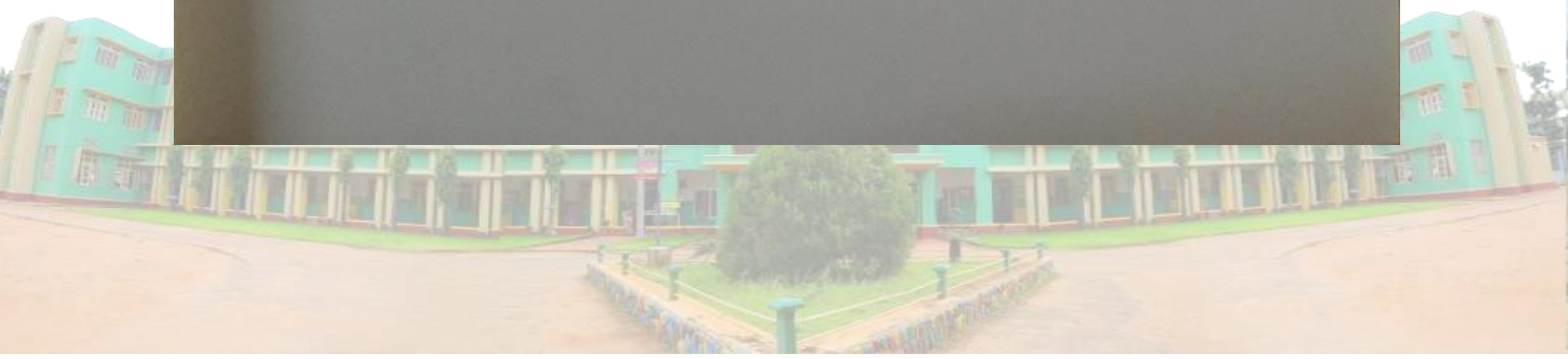
I hereby declare that, the project work entitled "A Study on customers satisfaction towards buying Agricultural Products" submitted to Holy Cross College (Autonomous), Nagercoil for the final year post Graduate study, it is an original work done under the guidance of Dr.R.Sreedevi, Assistant Professor in Commerce, Holy Cross College (Autonomous). It has not been previously done for the award of any other degree or diploma.

Place: Nagercoil

Date: 30-10-2023

Submitted by

  
S. Sahaya Celshiya-2022SPA211



**A STUDY ON IMPACT OF MOBILE PHONES TOWARDS  
COLLEGE STUDENTS IN NAGERCOIL TOWN**

A study report submitted to

**Holy Cross College (Autonomous), Nagercoil**

In partial fulfillment of the requirement for the award of the degree of

**MASTER OF COMMERCE**

Submitted by

S.S. Bruna -2022SPA194

Under the guidance of

**DR.R.EVALIN LATHA, M.Com., M.Phil., Ph.D**



**DEPARTMENT OF COMMERCE**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL-629004**

**OCTOBER-2023**

DR.R.EVALIN LATHA, M.Com., M.phil., Ph.D,  
Assistant Professor,  
Department of Commerce,  
Holy Cross College (Autonomous),  
Nagercoil-629004.

**CERTIFICATE**

This is to certify that the project work entitled "A Study on impact of mobile phones towards College Students in Nagercoil Town" is a bonofide research work done by S.S. Bruna under my supervision and guidance and submitted in partial fulfillment of the requirements for the Degree of Master of Commerce. It has not formed the basis for the award of any degree, diploma, or any other similar title.

Place: Nagercoil

Date: 30-10-2023

Head of the Department

Dr. R. Evalin Latha, M.Com.,M.Phil.,Ph.D.  
Head of the Department of Commerce (SF-1)  
Holy Cross College (Autonomous),  
Nagercoil - 629 004

Supervisor

Examiner  
31/10/23  
Dr. P.V. LAL WILSON  
HEAD & ASSOCIATE PROFESSOR  
Dept. of Commerce & Research Centre  
N.M. Christian College, Marthandam.

DECLARATION

I hereby declare that, the project work entitled "A Study on impact of mobile phones towards College Students in Nagercoil Town" submitted to Holy Cross College (Autonomous), Nagercoil for the final year post Graduate study, it is an original work done under the guidance of Dr.R.Evalin Latha Assistant Professor in Commerce, Holy Cross College (Autonomous). It has not been previously done for the award of any other degree or diploma.

Place: Nagercoil

Date: 30-10-2025

S. S. Bruna

Submitted by

S.S. Bruna – 2022SPA194

**INFLUENTIAL FACTORS OF INDIVIDUAL INVESTMENT  
DECISION OF PRIVATE BANK EMPLOYEES IN  
NAGERCOIL MUNICIPAL CITY**

*Project report submitted to Holy Cross College (Autonomous), Nagercoil*

*Affiliated to Manonmaniam Sundaranar University*

*in partial fulfillment of the requirements for the award of the degree of*

**MASTER OF COMMERCE**

**Submitted by**

**ABISHA.M**

**2022SPA288**

**Under the guidance of**

**Dr. A. Franklin Ragila M. C. S., DCAFA., M. Com., M. Phil., NET., Ph. D.**



**DEPARTMENT OF COMMERCE**

**HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL – 629004**

**OCTOBER - 2023**

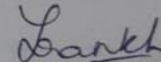
Dr. A. Franklin Ragila M. C. S., DCAFA., M. Com., M. Phil., NET., Ph. D.  
Assistant Professor in Commerce,  
Holy Cross College (Autonomous),  
Nagercoil-629004.

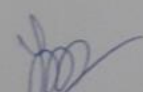
**CERTIFICATE**

This is to certify that the project work entitled "INFLUENTIAL FACTORS OF INDIVIDUAL INVESTMENT DECISION OF PRIVATE BANK EMPLOYEES IN NAGERCOIL MUNICIPAL CITY" is a bonofide research work done by ABISHA M under my supervision and guidance and submitted in partial fulfilment of the requirements for the degree of Master of Commerce. It has not formed the basis for the award of any degree, diploma, or any other similar title.

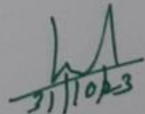
Place: Nagercoil

Date: 30/10/2023

  
Supervisor

  
Head of the Department

Dr. R. Evalin Latha, M.Com., M.Phil., Ph.D.  
Head of the Department of Commerce (SF-1)  
Holy Cross College (Autonomous);  
Nagercoil - 629 004

  
External Examiner

Dr. P.V. LAL WILSON  
HEAD & ASSOCIATE PROFESSOR  
Dept. of Commerce & Research Centre  
N.M. Christian College, Marthandam.



## DECLARATION

I hereby declare that, the project work entitled “**INFLUENTIAL FACTORS OF INDIVIDUAL INVESTMENT DECISION OF PRIVATE BANK EMPLOYEES IN NAGERCOIL MUNICIPAL CITY**” submitted to Holy Cross College (Autonomous), Nagercoil for the second year post graduate study is an original work done under the supervision and guidance of **Dr. A. Franklin Ragila, MCS., DCAFA., M.Com., M.Phil., NET., Ph. D.,** Assistant Professor, Department of Commerce, Holy Cross College (Autonomous), Nagercoil. It has not been previously prepared for the award of any other degree or diploma or any other similar title.

Place: Nagercoil

*M. Abisha*  
Submitted by

Date: 30/10/2023

Abisha. M

Reg No: 2022SPA288

**DEPARTMENT OF M.S.W**

**A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG  
COLLEGE STUDENTS IN NAGERCOIL**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the  
requirement for the award of the degree of*

**MASTER OF SOCIAL WORK**

Submitted by

**Ms. REEBA JOMON**

**Reg.No: 2022SPW224**

**II MSW**

Under the guidance of

**Mrs. V. SELVA MEENAKSHI**

Assistant professor, Department of social work



**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL - 629004**

**OCTOBER - 2023**

**A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG  
COLLEGE STUDENTS IN NAGERCOIL**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the  
requirement for the award of the degree of*

**MASTER OF SOCIAL WORK**

Submitted by

**REEBA JOMON**

**Reg.No: 2022SPW224**

**II MSW**

Under the guidance of

**Mrs. V. SELVA MEENAKSHI**

Assistant professor, Department of social work



**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL - 629004**

**OCTOBER - 2023**

**BONAFIDE CERTIFICATE**

This is to certify that the research entitled " A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG COLLEGE STUDENTS ", submitted to Holy Cross College (Autonomous) Nagercoil, partial fulfillment of the requirement to the award of Degree of Master of Social work is a bonafide research work done by Ms. REEBA JOMON (Reg.No. 2022SPW224 ) under the guidance of Ms. V. SELVA MEENAKSHI, and that no part of this research has been submitted for the award of any other Degree/ Diploma/ fellowship to any University/ Institution.

*V. Selva Meenakshi*  
21/10/2023

**Faculty Guide**  
(Ms. V. Selva Meenakshi)

**Department of Social Work**  
Holy Cross College (Autonomous)  
Nagercoil

*J. Mary Deeba*  
21/10/23

**Head of the Department**  
(Ms. J. Mary Deeba)

**HOD**  
Dept. of Social Work  
Holy Cross College (Autonomous)  
Nagercoil

*[Signature]*

**External Examiner**

## DECLARATION

I hereby declare that, this research entitled " A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG COLLEGE STUDENTS " submitted to Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the award of Degree of Master of Social Work is a record of original research work done by me under the supervision of Ms. V. Selva Meenakshi, Assistant Professor of the Department of Social Work, Holy Cross College (Autonomous), Nagercoil and that it has not formed the basis for the award of Degree / Diploma/ Fellowship or other title to any University.

*Reeba*  
( REEBA JOMON )

**A COMPARATIVE STUDY ON PSYCHOLOGICAL WELL-BEING OF GRADUATED  
EMPLOYED WOMEN AND GRADUATED UNEMPLOYED WOMEN IN NAGERCOIL**

Dissertation submitted to Holy Cross College (Autonomous), Nagercoil Affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment of the requirement for  
the award of the degree of

**MASTER OF SOCIAL WORK**

Submitted by

**Miss. X. ASANU VIJI**

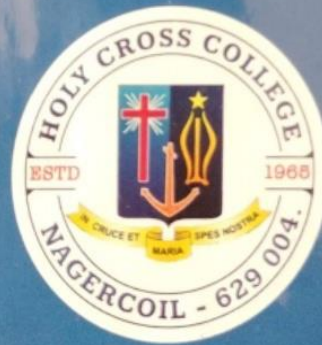
**Reg. No. 2022SPW252**

UNDER THE GUIDANCE OF

**Mrs. V. SELVA MEENAKSHI**

**Assistant Professor,**

**P.G DEPARTMENT OF SOCIAL WORK**



**PG Department of Social Work**

**Holy Cross College (Autonomous),**

**NAGERCOIL- 629004**

**A COMPARATIVE STUDY ON PSYCHOLOGICAL WELL-BEING OF GRADUATED  
EMPLOYED WOMEN AND GRADUATED UNEMPLOYED WOMEN IN NAGERCOIL**

Dissertation submitted to Holy Cross College (Autonomous), Nagercoil Affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment of the requirement for  
the award of the degree of

**MASTER OF SOCIAL WORK**

Submitted by

**Miss. X. ASANU VIJI**

Reg. No. 2022SPW252

UNDER THE GUIDANCE OF

**Mrs. V. SELVA MEENAKSHI**

**Assistant Professor,**

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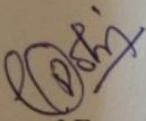
**PG Department of Social Work**

**Holy Cross College (Autonomous),**

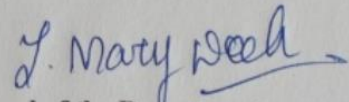
**NAGERCOIL- 629004**

CERTIFICATE

This is a certify that the research entitled "A COMPARATIVE STUDY ON PSYCHOLOGICAL WELL-BEING OF GRADUATED EMPLOYED WOMEN AND GRADUATED UNEMPLOYED WOMEN IN NAGERCOIL", submitted to Holy Cross College (Autonomous) Nagercoil, partial fulfilment of the requirement to the award to degree of Master of Social Work is a bonafide research work done by Miss. X. ASANU VIJI (2022SPW252) under the guidance of Mrs. V. SELVA MEENAKSHI Assistant Professor, and that no part of this research and submitted for the award of any other Degree to my university/ institution



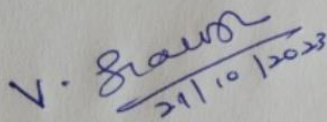
External Examiner



Head of the Department

(Mrs. J. Mary Deeba)

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Faculty Guide

(V. Selva Meenakshi)

Department of Social Work  
Holy Cross College (Autonomous)  
Nagercoil



**A STUDY ON THE ATTITUDE TOWARDS DATING AND LIVE IN  
RELATIONSHIP AMONG COMMON PEOPLE IN CALICUT DISTRICT**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the  
requirement for the award of the degree of*

**MASTER OF SOCIAL WORK**

Submitted by

**ANUPRIYA NR**

**Reg.No: 2022SPW219**

**II MSW**

Under the guidance of

**Mrs. V. SELVA MEENAKSHI**

Assistant professor, Department of social work



**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629004**

**OCTOBER - 2023**

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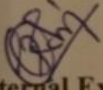
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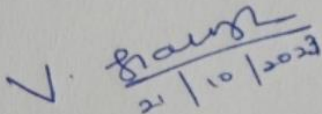


**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)  
NAGERCOIL - 629004  
OCTOBER - 2023**

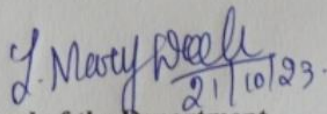
**BONAFIDE CERTIFICATE**

This is to certify that the research entitled "A STUDY ON THE ATTITUDE TOWARDS DATING AND LIVE IN RELATIONSHIP AMONG COMMON PEOPLE IN CALICUT DISTRICT", submitted to Holy Cross College (Autonomous) Nagercoil, partial fulfillment of the requirement to the award of Degree of Master of Social Work is a bonafide research work done by Ms. ANUPRIYA.N.R (Reg.No 2022SPW219) under the guidance of Ms. V. Selva Meenakshi, and that no part of this research has been submitted for the award of any other Degree, Diploma, Fellowship to any University, Institution.

  
External Examiner

  
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**A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG  
COLLEGE STUDENTS IN NAGERCOIL**

*Dissertation submitted to Holy Cross College (Autonomous), Nagercoil, affiliated to  
Manonmaniam Sundaranar University, Tirunelveli, in partial fulfillment of the  
requirement for the award of the degree of*

**MASTER OF SOCIAL WORK**

Submitted by

**Ms. REEBA JOMON**

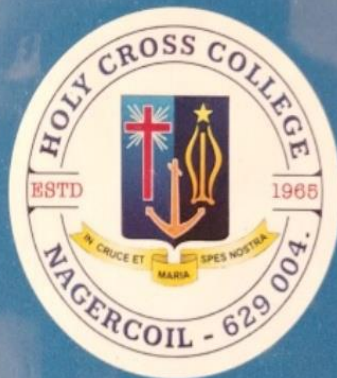
**Reg.No: 2022SPW224**

**II MSW**

Under the guidance of

**Mrs. V. SELVA MEENAKSHI**

Assistant professor, Department of social work



**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL - 629004**

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**MASTER OF SOCIAL WORK**

Submitted by

**REEBA JOMON**

**Reg.No: 2022SPW224**

**II MSW**

Under the guidance of

**Mrs. V. SELVA MEENAKSHI**

Assistant professor, Department of social work



**P.G. DEPARTMENT OF SOCIAL WORK  
HOLY CROSS COLLEGE (AUTONOMOUS)**

**NAGERCOIL - 629004**

**OCTOBER - 2023**

**BONAFIDE CERTIFICATE**

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*V. Selva Meenakshi*  
21/10/2023

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*J. Mary Deeba*  
21/10/23

**Head of the Department**  
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Dept. of Social Work  
Holy Cross College (Autonomous)  
Nagercoil

*(Signature)*

**External Examiner**

## DECLARATION

I hereby declare that, this research entitled " A STUDY ON THE INFLUENCE OF SOCIAL MEDIA ON COLORISM AMONG COLLEGE STUDENTS " submitted to Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the award of Degree of Master of Social Work is a record of original research work done by me under the supervision of Ms. V. Selva Meenakshi, Assistant Professor of the Department of Social Work, Holy Cross College (Autonomous), Nagercoil and that it has not formed the basis for the award of Degree / Diploma/ Fellowship or other title to any University.

*Reeba*  
( REEBA JOMON)