

Holy Cross College (Autonomous)

Nagercoil-629004

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 GRACEFUL LABELING

Project report submitted to Holy Cross College (Autonomous), Nagercoil in partial fulfilment of the requirement for the award of the degree of

MASTER OF SCIENCE IN MATHEMATICS

BY

A.ANI ASHKA

Reg. No: 2020APM406

&

B.PRIMMIYA

Reg. No: 2020APM426

Under the guidance of

Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D.,

Assistant Professor



DEPARTMENT OF MATHEMATICS (AIDED)

HOLY CROSS COLLEGE (AUTONOMOUS)

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

(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)

NAGERCOIL - 629004

DECEMBER 2021

i

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

Assistant Professor,

Department of Mathematics (Aided),

Holy Cross College (Autonomous),

Nagercoil-629 004.

CERTIFICATE

This is to certify that the project work entitled "A STUDY ON GRACEFUL LABELING" submitted by A. ANI ASHKA (Reg. No:2020APM406) and B. PRIMMIYA (Reg.No:2020APM426) of II M.Sc. Mathematics (Aided), Holy Cross College (Autonomous) in partial fulfilment of the requirements for the award of the degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil

Date: 15-12 - 2021.

Dr. V. H. And Blower. Han

Head of the Department Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) Nagercoil - 629 004

Examiner

Dr. S.N. LEENA NELSON, Ph.D. Head of the Department & Research Centre Research Department of Mathematics Women's Chistian College, Nagercoil-629 001 V-Lujin Flower Supervisor

Dr. V.SUJIN FLOWET Assistant Depletson Impariment of Montematics Holy Cross College eventmenter Nagercolt (2004-0

We hereby declare that this project work entitled "A STUDY ON GRACEFUL LABELING" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D., Assistant Professor, Department of Mathematics (Aided), Holy Cross College (Autonomous) and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil

Date: 15-12-2021.

A An Atha A.ANI ASHKA

ACKNOWLEDGEMENT

First and foremost, we thank God Almighty for giving us the strength, knowledge, ability and opportunity to undertake this project and to persevere and complete it satisfactorily. Without His blessings, this project would not have been possible.

Next we thank our College Secretary Dr. Sr. Gerardin Jayam, Principal Dr. Sr. Anne Perpet Sophy, Vice Principal Dr. Sr. Leema Rose, Controller of Examinations Dr. J. Vinoliya Josephine Mary and our Librarian Dr. Sr. Mary Johnsy for allowing us to utilize the facilities of the college for the project work wishes and also for their well wishes.

Our sincere thanks to our project guide Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D., for the valuable suggestions, guidance and help rendered by her during the course of our work.

Our sincere thanks to Dr. V. M. Arul Flower Mary, Head of the Department of Mathematics (Aided) and the staff of the same department, Holy Cross College (Autonomous), Nagercoil for her valuable suggestions, encouragement and help.

We owe our thanks to our dear parents and sisters and brothers for their timely help. Also, we thank our friends and well-wishers who helped us during the course of this project work.

A. Ano Arh A.ANI ASHKA

PRIMMIYA



CONTENTS

CHAPTER	TITLE	PAGE NO
	INTRODUCTION	1
I	PRELIMINARIES	2
п	GRACEFUL LABELING	8
ш	ODD GRACEFUL LABELING	18
IV	EVEN GRACEFUL LABELING	35
	CONCLUSION	48
	BIBLIOGRAPHY	49

A STUDY ON SPECIAL TYPES OF GEODETIC NUMBER OF GRAPHS

Dissertation submitted to Holy Cross College (Autonomous) affiliated to Manonmaniam Sundarnar University in partial fulfilment of the requirement of the award of the degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

P. ANTONY SWETHA S.J. SIGITHRA Reg No. 2020APM408 Reg No. 2020APM429

Under the guidance of

Sr. S. ANTIN MARY, M.Sc., NET, SET,

Assistant Professor.



DEPARTMENT OF MATHEMATICS HOLY CROSS COLLEGE (AUTONOMOUS) RE-ACCREDITED WITH A+ GRADE (CGPA3.35)IV Cycle (AFFLIATED TO MANONMANIAM SUNDARANAR UNIVERSITY) NAGERCOIL-629004 DECEMBER 2021

I

Sr. S. Antin Mary, M.Sc., NET, SET, Assistant Professor, Department of Mathematics (Aided), Holy Cross College (Autonomous), Nagercoil-629 004.

CERTIFICATE

This is to certify that the dissertation entitled " A STUDY ON SPECIAL TYPES OF GEODETIC NUMBER OF GRAPHS" submitted by the canditates P. ANTONY SWETHA (Reg No: 2020APM408) and S.J.SIGITHRA (Reg No. 2020APM429) to the Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundarnar University, Tirunelveli for the award of M.Sc. Degree in Mathematics in a bona-fide record of the 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.

Place: Nagercoil Date:

12/202) 20

Sr. S. Antin Mary (Supervisor)

Dr. V. H. Aul Flower, Mary Head of the Department 16/12/200

Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) Nagercoil - 629 004

П

We hereby declare that this dissertation "A STUDY ON SPECIAL TYPES OF GEODE-TIC NUMBER OF GRAPHS" is being submitted to Holy Cross College (Autonomous). Nagercoil affiliated to Manonmaniam Sundarnar 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 during our period of study under the supervisor of Sr. S. Antin Mary, M.Sc., NET, SET, Assistant Professor, Department of Mathematics (Aided), Holy Cross College (Autonomous), Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

Place: Nagercoil Date:

P. Antony Souths P. ANTONY SWETHA

Sigithra S.J S. J. SIGITHRA

ACKNOWLEDGEMENT

First and foremost, we wish to thank the Almighty God for this marvelous blessing towards us, all throughout this year to complete our dissertation.

We wish to express our sincere thanks and deep sense of gratitude to our guide and supervisor Sr. S. Antin Mary, M.Sc., NET, SET, for suggesting this research problem and for her valuable and genuine guidance, constant encouragement, untiring help, keen interest and co-operation throughout the period of investigation.

Our sincere thanks to Mrs. V.M. Arul Flower Mary, Head of Department of Mathematics (Aided) and the staff of the same department, Holy Cross College, Nagercoil for their valuable suggestion, encouragement and help.

We wish to express our appreciation and gratitude to our Principal Dr. Sr. S. Anne Perpet Sophy Vice Principal Dr. Sr. Leema Rose, Secretary Dr. Sr. Gerardin Jayam, Controller of Examination Dr. J. Vinoliya Josephine Mary and our Librarian Dr. Sr. Mary Johnsy, Holy Cross College, Nagercoil for their encouragement and sincere guidance in all aspects of the project.

Finally our hearful thanks to our parents and friends for their help towards this project work report and for the presentation of the dissertation in time.

P. Antony Sweeths P. ANTONY SWETHA

Sigillora. S.J S.J. SIGITHRA



28

Contents

1	INT	RODUCTION AND PRELIMINARIES	1		
	1,1	Introduction	ļ		
	1.2	Preliminaries	1		
		Preliminaries	2		
2	Spli	t and Nonsplit Geodetic Number of Graphs	5		
	2.1	Split Geodetic Number			
	2.2	Split Edge Geodetic Number	5		
	2.3	Strong Split Geodetic Number	7		
	2.4	Nonsplit Geodetic Number			
3	Con	nected Total and Total Outer Independent Geodetic Number of Graphs	16		
	3.1	Total Geodetic Number			
	3.2	Connected Total Geodetic Number	16		
	3.3	Total outer independent geodetic number	19		
4	Vertex and Connected Vertex Geodomination Number				
	4.1	- CONTRACTOR AN AVENUE AND ADDRESS	22 22		
	4.2	Connected vertex geodomination number	24		
5	App	plication	28		



A STUDY ON MAGIC LABELING OF SOME GRAPHS

Project Word submitted to Holy Cross College (Autonomous) 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

ASBEL J MELGRA

(Reg no. 2020APM410)

&

S. MYMOON SHADHIYA

(Reg no. 2020APM425)

Under the guidance of

Dr. T. SHEEBA HELEN, M.Sc., M.Phil., B.Ed, Ph.D

Assistant Professor.



DEPARTMENT OF MATHEMATICS (AIDED)

HOLY CROSS COLLEGE (AUTONOMOUS)

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

(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)

NAGERCOIL - 629004

DECEMBER – 2021

Dr. T. SHEEBA HELEN, M.Sc., M.Phil., B.Ed., Ph.D

Assistant Professor,

Department of Mathematics (Aided),

Holy Cross College (Autonomous),

Nagercoil - 629 004

CERTIFICATE

entitled work This is to certify that the project "A STUDY ON MAGIC LABELING OF SOME GRAPHS" MELGRA ASBEL J Submitted by the candidate SHADHIYA 2020APM410) and S. MYMOON (Reg no. (Reg no.2020APM425) of II M.Sc.Mathematics (Aided), to the Holy Cross College (Autonomous) for the award of MASTER OF SCIENCE IN MATHEMATICS is a bonalide record of the Project work done by them under my supervision and guidance.

Place : Nagercoil

Date: 15-12-2021

Externa

Dr. S.N. LEENA NELSON, Ph.D. Head of the Department & Research Centre Research Department of Mathematics Women's Christian College, Nagercoil-629 001

T.Slat

T. Sheeba Helen Ms. T. SHEEBA HELEN, M.Sc., M.Phil, B.Ed., As(Steps):Prof.958.97, Department of Mathematics, Holy Cross College (Autonomous) Nagercoil - 629004.

Dr.V. M. Aul Hower Head of the Department

Department of Mathematics(Aided)

Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) Nagercoll - 629 004

We hereby declare that this project work entitled " A STUDY ON MAGIC LABELING OF SOME GRAPH" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Dr. T. Sheeba Helen, Assistant Professor, Department of Mathematics (Aided), Holy Cross College (Autonomous) and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place : Nagercoil Date : 15 - 12 - 2021

Allelgru ASBEL J MELGRA

S. Mymoon Shadhiye. S.MYMOON SHADHIYA

ACKNOWLEDGEMENT

First and foremost, we thank God Almighty for giving us the strength, knowledge, ability and opportunity to undertake this project and persevere and complete it satisfactorily. Without his blessings, this project would not have been possible.

Next, we thank our College Secretary Dr. Sr. Gerardin Jayam, Principal Dr. Sr. S. Anne perpet Sophy, Controller of Examinations Dr. J. Vinoliya Josephine Mary, and our Librarian Dr. Sr. A. Mary Johnsy for allowing us to utilize the facilities of the college for the project work and also for their well wishes.

Our sincere thanks to our project guide Dr. T. Sheeba Helen, Assistant Professor of Mathematics, Holy Cross College (Autonomous), Nagercoil for the valuable suggestions, guidance and help rendered by her during the course of our work.

We also thankful to the other faculty members of the Department of Mathematics (Aided) for their encouragement and help.

We owe our thanks to our dear parents and sisters for their timely help. Also, we thank our friends and well wishers who helped us during the course of this project work.

Asheldflelyro ASBEL J MELGRA

S-MXymoon Shad S. MYMOON SHADHIYA

	CONTENTS	
GUADTED	TITLE	PAGE NO
CHAPTER	INTRODUCTION	1
		3
I	PRELIMINARIES	5
II	VERTEX MAGIC AND EDGE MAGIC TOTAL	
	LABELING	
	2.1 Vertex Magic Total Labeling	
	2.2 Edge Magic Total Labeling	14
ш	MAGIC SQUARE AND SUPERMAGIC	14
	LABELING	
	3.1 Magic Square	
	3.2 History of Magic Square	
	3.3 Famous Magic Square	
	3.4 Properties of Magic Square	
	3.5 The Method For Odd Magic Square	
	3.6 The Method For Even Magic Square	
	Divisible By 4	
	3.7 The Method For Even Magic Square Not	
	Divisible By 4	
	3.8 Supermagic Labeling	
IV	E-SUPER VERTEX MAGIC LABELING AND E-	30
	REVERSE SUPER VERTEX MAGIC LABELING	
	4.1 E-Super Vertex Magic Labeling	
	4.2 Basic Properties Of E-Super Vertex Magic	
	Labeling	
	4.3 E-Reverse Super Vertex Magic Labeling	
	4.4 Basic Properties Of E-Reverse Super Vertex	
	Magic Labeling	
	Magic Labeling	

V	APPLICATION OF MAGIC SQUARE AND	46
	APPLICATION OF REVERSE VERTEX MAGIC	
	LABELING	
	5.1 Application Of Sudoku	
	5.2 Application Of Reverse Vertex Magic Labeling	
	CONCLUSION	50
	REFERENCE	51`

Dr. V. M. ARUL FLOWER MARY, M.Sc., M.Phil., Ph.D.

Associate professer & Head,

Department of Mathematics (Aided),

Holy Cross College (Autonomous),

Nagercoil- 629 004.

CERTIFICATE

This is to certify that the project work entitled "A STUDY ON GRACEFUL LABELING OF SOME GRAPHS" submitted by Miss.GABRILLA SABADINI H (Reg. No: 2020APM412), Miss.MARY THOMAS V (Reg. No: 2020APM424)of II. M.Sc. Mathematics (Aided), Holy Cross College (Autonomous) in partial fulfilment of the requirements for the award of the degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil

Date: 15-12-2021

DA. V. I And Flower Hary Head of Department 16/12/2021

Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) Nagercoil - 629 004

Dr. V. H. Aul Thouse Harry Supervisor

Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) 20 12/2020 Nagercoll - 629 004

Dr. S.N. LEENA NELSON, Ph.D. Head of the Department & Research Centre Research Department of Mathematics Women's Christian College, Nagercoil-629 001

We hereby declare that this project work entitled "A STUDY ON GRACEFUL LABELING OF SOME GRAPHS" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Dr.V.M. Arul Flower Mary, Department of Mathematics (Aided), Holy Cross College (Autonomous) and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil Date: 15-12-2021

GABRILLA SABADINI.H

19. UaryThomas. MARY THOMAS.V

ACKNOWLEDGEMENT

First and foremost, we thank God Almighty for giving us the strength, knowledge, ability and opportunity to undertake this project and to persevere and complete it satisfactorily. Without His blessings, this project would not have been possible.

Next we thank our College Secretary Dr. Sr. GerardinJeyam, Principal Dr. Sr. Anne Perphet Sophy, Controller of Examinations Dr. J. Vinoliya Josephine Mary, and our Librarian Dr. Sr. Mary Johnsy for allowing us to utilize the facilities of the college for the project work wishes. and also for their well

Our sincere thanks to our project guide Dr. V. M. Arul Flower Mary, Head of the Department of Mathematics, Holy Cross College (Autonomous), Nagercoil for the valuable suggestions, guidance and help rendered by her during the course of our work.

We are also thankful to the other faculty members of the Department of Mathematics (Aided) for their encouragement and help.

We owe our thanks to our dear parents and sisters and brothers for their timely help. Also, we thank our friends and well-wishers who helped us during the course of this project work.

Algabby GABRILLA SABADINI.H

y. Mary Thomas MARY THOMAS.V

	CONTENTS	
CHAPTER	TITLE	PAGE NO
	INTRODUCTION	1
1	PRELIMINARIES	3
П	GRACEFUL LABELING	9
	2.1 Definitions	
	2.2 Examples	
	2.3 The number of graceful graphs	
	2.4 Graceful Labeling of Some	
	Cycles.	
Ш	SOME GRACEFUL GRAPHS	19
	3.1 Definitions	
	3.2 Main Results	
IV	GRACEFUL LABELING ON OPEN	31
	STARS AND ONE POINT UNION	
	FOR PATH OF GRAPH	
	4.1 Definitions	
	4.2 Main Results	
v	APPLICATION OF GRACEFUL	40
	LABELING	
	5.1 Applications	
	5.2 Application in Dental Arch	
	CONCLUSION	43
	REFERENCE	44

GRAPHICAL REPRESENTATION OF TOURNAMENTS AND THEIR DEGREE SEQUENCES

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

MASTER OF SCIENCE IN MATHEMATICS

By

V. BABISHA Register No. : 2020APM411

J. JENISHA Register No. : 2020APM416

Under the guidance of

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

Assistant Professor



DEPARTMENT OF MATHEMATICS (AIDED) HOLY CROSS COLLEGE (AUTONOMOUS) RE-ACCREDITTED WITH A+ GRADE (CGPA 3.35) AFFILATED TO MANONMANIAM SUNDARANAR UNIVERSITY NAGERCOIL - 629004 DECEMBER 2021

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

Assistant Professor,

Department of Mathematics (Aided),

Holy Cross College (Autonomous),

Nagercoil-629 004.

CERTIFICATE

This is to certify that this project work entitled "GRAPHICAL REPRESENTATION OF TOURNAMENTS AND THEIR DEGREE SEQUENCES" submitted by V.BABISHA (Register No.2020APM411) and J.JENISHA (Register No. 2020APM416) of II M.Sc. Mathematics (Aided), Holy Cross College (Autonomous), Nagercoil in partial fulfilment of the requirement for the award of degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place : Nagercoil

Date : 15.12.2021

Dr. V. H. And How

Head of the Department

Dr. V.M. ARUL FLOWER MARY Associate Professor & Head Department of Mathematics Holy Cross College (Autonomous) Nagercoil - 629 004

Examiner

Supervisor U: S. SUJINHA MSC.B.Ed. M.Phil. Ph.D.

Assistant Professor. Department of Mathematics Holy Cross College (Autonomous) Nagercoil - 629 004.

Dr. S.N. LEENA NELSON, Ph.D. Head of the Department & Research Centre Research Department of Mathematics Women's Christian College, Nagercoil-629 001

We hereby declare that this project work entitled "GRAPHICAL REPRESENTATION OF TOURNAMENTS AND THEIR DEGREE SEQUENCES" is being submitted by us for the degree of Master of Science in Mathematics is done under the guidance of Dr. S. SUJITHA, Assistant Professor, Department of Mathematics (Aided), Holy Cross College (Autonomous) and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place : Nagercoil

Date : 15.12,2021

V.Babisha

(Register no.2020APM411)

J. Jenisha J.Jenisha

(Register no.2020APM416)



ACKNOWLEDGEMENT

First and foremost, we wish to thank God Almighty for giving us the strength, knowledge ability and opportunity to undertake this project and to preserve and complete it satisfactorily. Without his blessings, this project would not have been possible.

Next we thank our college Secretary Dr.Sr.Gerardin Jeyam, Principal Dr.Sr.Anne Perphet Sophy, Controller of Examinations Dr.J.Vinoliya Josephine Mary, and our Librarian Dr.Sr.Mary Johnsy for allowing us to utilize the facilities of the college for the project work and also we thank our Head of the Department Dr.V.M.Arul Flower Mary for her consistent support.

Our sincere thanks to our project guide **Dr.S.Sujitha**, Assistant Professor of Mathematics, Holy Cross College (Autonomous), Nagercoil for the valuable suggestion, guidance and help rendered by her during the course of our work.

We are also thankful to the other faculty members of the Department of Mathematics (Aided) for their encouragement and help.

We owe our thanks to our dear parents and sister for their timely help. Also, we thank our friends and well wishes who helped us during the course of this project work.

FFEF

CONTENTS

CHAPTER	TITLE	PAGE NO.
	PREFACE	
1	PRELIMINARIES	1
2	TOURNAMENT GRAPHS	7
3	WIN LOSS FINDINGS	13
4	TOURNAMENT GRAPHS WITH	22
	DRAWS	
5	SINGLE ELIMINATION	35
	TOURNAMENT AND ITS DEGREE	
	SEQUENCES	
	CONCLUSION	44
	REFERENCES	45

DEPARTMENT OF MATHEMATICS (S.F)

A STUDY ON TRIPLE CONNECTED DOMINATION OF GRAPHS

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

MASTER OF SCIENCE IN MATHEMATICS

by

J.H. AISWARYA (Reg. No: 2020SPM297) J. AROCKIYA ABISHA (Reg. No: 2020SPM303) Under the guidance of

Dr. J.C. EVELINE, M.Sc., Ph.D., SET.

Assistant Professor of Mathematics



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. DECEMBER - 2021

Dr. J.C. EVELINE, M.Sc., Ph.D., SET. Assistant Professor.

Department of Mathematics (Self - Financed),

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that this project work entitled "A STUDY ON TRIPLE CONNECTED DOMINATION OF GRAPHS" submitted by Miss J.H. AISWARYA (Reg. No: 2020SPM297), Miss J. AROCKIYA ABISHA (Reg. No: 2020SPM303) of II. M.Sc. Mathematics (Self - Financed) to Holy Cross College (Autonomous), in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil

Date: 15-12-202

S.C. Eveline

(Guide and Supervisor)

B. Uncides 112/2021 External Examiner

Dr. B. UMA DEVI, MSc.M.Phil.B.Ed.Ph.D Associate Professor Dept. of Mathematics, S.T. HINDU COLLEGE, Nagercoil

J. Anne Mary Leeme

Head of the Department

Department of Mathematics (S.F.) Department of Mathematics (S.F.) Holy Cross College (Autonomous)

We hereby declare that this project work entitled "A STUDY ON TRIPLE CONNECTED DOMINATION OF GRAPHS" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Dr. J.C. EVELINE, M.Sc., Ph.D., SET. Assistant Professor, Department of Mathematics (Self - Financed), Holy Cross College (Autonomous), and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil Date: 15-12-2021

J. AROČK A ABISHA



CHAPTER NUMBER	TITLE	PAGE NUMBER
computer.	Introduction	structur 1 can
1	Preliminaries	3
2	Domination	10
3	Triple Connection	. 18
4	Triple Connected Domination	25
Ore and Be	Conclusion	34
in graph "	References	35

A STUDY ON DIFFERENCE LABELING IN GRAPHS

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

MASTER OF SCIENCE IN MATHEMATICS

by P.ANNIE RISHIKA (Reg. No. 2020SPM300) A.SHAJILA (Reg. No. 2020SPM318)

Under the guidance of Mrs. V. PRINCY KALA, M.Sc., M.Phil., SET., Assistant Professor of Mathematics



DEPARTMENT OF MATHEMATICS (SELF FINANCED)

HOLY CROSS COLLEGE (AUTONOMOUS)

ACCREDITED WITH A+ GRADE (CGPA 3.35) IV CYCLE

(AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY)

NAGERCOIL - 629004

DECEMBER - 2021

Mrs. V. PRINCY KALA, M.Sc., M.Phil., SET.,

Assistant Professor,

Department of Mathematics (Self Financed),

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that this project work entitled "A STUDY ON DIFFERENCE LABELING IN GRAPHS" submitted by Ms. P.ANNIE RISHIKA (Reg. No. 2020SPM300), Ms. A.SHAJILA (Reg. No. 2020SPM318) of II. M.Sc. Mathematics (Self Financed) to Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil Date: 15-12-2021

Mrs. V. PRINCY KALA,

(Guide and supervisor)

ernal Examiner

Dr. B. UMA DEVI, M.Sc. MPHL, B.Ed. M. Associate Professor Dept. of Mathematics, S.T. HINDU COLLEGE, Nagercoll

J. Anne Mary Leeme

Head of the Department

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

We hereby declare that this project work entitled "A STUDY ON DIFFERENCE LABELING IN GRAPHS" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Mrs. V. PRINCY KALA, M.Sc., M.Phil., SET., Assistant Professor, Department of Mathematics (Self Financed), Holy Cross College (Autonomous), Nagercoil and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil

Date: 15-12-2021

Rishika P.ANNIE RISHIKA

A shajila A.SHAJILA

間

CONTENTS				
All here and a second sec	A State of the second sec			
CHAPTER NUMBER	TITLE	PAGE NUMBER		
and the second second	INTRODUCTION	01		
1	PRELIMINARIES	03		
2	SQUARE DIFFERENCE LABELING OF SOME GRAPHS	06		
3	CUBE DIFFERENCE LABELING OF SOME GRAPHS	18		
4	CUBE SQUARE DIFFERENCE LABELING OF SOME GRAPHS	29		
Frith Bave on it	CONCLUSION	40		
and the second second second second	REFERENCES	41		

A STUDY ON PRIME CORDIAL LABELING

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

MASTER OF SCIENCE IN MATHEMATICS

by

B. ANTONY JOTHIKA(Reg. No: 2020SPM301)R. MICHAEL ANTO BENI(Reg. No: 2020SPM315)

Under the guidance of Mrs. C. JOSELIN JENISHA, M.Sc., B.Ed., M.Phil., SET. Assistant Professor of Mathematics



DEPARTMENT OF MATHEMATICS (SELF - FINANCED) HOLY CROSS COLLEGE (AUTONOMOUS) RE-ACCREDITED WITH A+ GRADE (CGPA 3.35) (AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY NAGERCOIL - 629004.

DECEMBER - 2021

Mrs. C. JOSELIN JENISHA, M.Sc., B.Ed., M.Phil., SET.

Assistant Professor,

Department of Mathematics (Self - Financed),

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that this project work entitled "A STUDY ON PRIME CORDIAL LABELING" submitted by Miss. B. ANTONY JOTHIKA (Reg. No: 2020SPM301), Miss. R. MICHAEL ANTO BENI (Reg. No: 2020SPM315) of II. M.Sc. Mathematics (Self - Financed) to Holy Cross College (Autonomous), in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil

Date: 15-12-2021

doselin Linista Mrs. C. JOSELIN JENISHA

(Guide and Supervisor)

B. On ade 20[12/2021 External Examiner

Dr. B. UMA DEVI, MSc.M.Phil.B.Ed.Ph.D Associate Professor Dept. of Mathematics, S.T. HINDU COLLEGE, Nagercoil

J. Anne Mary Leeme

Head of the Department

Department of Mathematics (S.F)

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

We hereby declare that this project work entitled "A STUDY ON PRIME CORDIAL LABELING" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Mrs. C. JOSELIN JENISHA, M.Sc., B.Ed., M.Phil., SET. Assistant Professor, Department of Mathematics (Self - Financed), Holy Cross College (Autonomous), and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil

Date: 15-12.2021

B. Jothika B. ANTONY JOTHIKA

R. Michael Anto Beni. R. MICHAEL ANTO BENI

Repaired States and the States

CONTENTS

CHAPTER NUMBER	TITLE	PAGE NUMBER
ING COMPANY AC	INTRODUCTION	1
1	PRELIMINARIES	2
2	PRIME CORDIAL LABELING	7
tot graph he	OF SOME GRAPHS	ni naing ta'in enig n his paper na ha
3	PRIME CORDIAL LABELING OF THE GRAPHS RELATED TO CYCLE WITH ONE CHORD, TWIN CHORDS AND TRIANGLE	19
4	PRIME CORDIAL LABELING ON ECCENTRIC GRAPH OF CYCLE AND PATH	32
12111111111	CONCLUSION	42
The correct	REFERENCES	43



A STUDY ON LAPLACIAN IN GRAPH THEORY

Project report submitted to Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN MATHEMATICS

by

C. LYDIA (Reg. No: 2020SPM314)

J. SUVIKSHA AARTHI (Reg. No: 2020SPM319)

Under the guidance of

Mrs. R.N. RAJALEKSHMI, M.Sc., B.Ed., M.Phil., SET. Assistant Professor of Mathematics



DEPARTMENT OF MATHEMATICS (SELF-FINANCE) HOLY CROSS COLLEGE (AUTONOMOUS) RE-ACCREDITED WITH A+ GRADE (CGPA 3.35) (AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSITY) NAGERCOIL - 629 004.

DECEMBER - 2021

Mrs. R.N. RAJALEKSHMI, M.Sc., B.Ed., M.Phil., SET.

Assistant Professor,

Department of Mathematics (Self-Finance),

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that this project work entitled "A STUDY ON LAPLACIAN IN GRAPH THEORY" submitted by Miss. C. LYDIA (Reg. No: 2020SPM314), Miss. J. SUVIKSHA AARTHI (Reg. No: 2020SPM319) of II. M.Sc. Mathematics (Self-Finance) to Holy Cross College (Autonomous), in partial fulfillment of the requirements for the award of the Degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under my supervision and guidance.

Place: Nagercoil Date: |5||a| 202| R.N. Rajalekshni Mrs. R.N. RAJALEKSHMI

(Guide and Supervisor)

ternal Examiner

Dr. B. UMA DEVI, M.Sc.M.Phil.B.Ed.Ph.D Associate Professor Dept. of Mathematics, S.T. HINDU COLLEGE, Nagercoil

J. Anne Many Leema

Head of the Department

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

We hereby declare that this project work entitled "A STUDY ON LAPLACIAN IN GRAPH THEORY" submitted by us for the Degree of Master of Science in Mathematics is done under the guidance of Mrs. R.N. RAJALEKSHMI, M.Sc., B.Ed., M.Phil., SET. Assistant Professor, Department of Mathematics (Self-Finance), Holy Cross College (Autonomous), and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil

Date: 15/12/2021

We need our manho in our dist parents and shours for fair theory heig. Also,

C. LYDIA

J. Suviksha Narth: J. SUVIKSHA AARTHI

CHAPTER NUMBER	TITLE	PAGE NUMBER
	INTRODUCTION	1
1	PRELIMINARIES	2
2	LAPLACIAN MATRIX	7
3	SPECTRAL GRAPH THEORY	19
	CONCLUSION	38
	REFERENCES	39

CONTENTS

analised adjustment apertment. The empirical position eigenvalue of the Laplacian matrix in wellmans the expender and magnifying coefficiences of prophet.

There are an an ord books and servery papers are control when the Lepinsian marks of a graph. For example, to 1977, Ching published his back excited "Apostor energy and an antick in the server of the Lepinsian and 1977, he revealed at the dealer hand markeds of alternative matrix Parenes, in 1997, he revealed a server of a second second books and a stress of the Lepinsian dealers of graphs to graph theory and he second second second at the serve of the second section of the prophetics of the termination of the Lepinsian second from the stress of the Lepinsian and prophetics of the prophetics of the second second second second second second second section dates and second second second second of the second second section from the second second.

A STUDY ON ENERGY OF THE GRAPH

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

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S. AGNES JENI	Register No: 2020SPM296
J. M. ASHA GOLD	Register No: 2020SPM304
V. RUPAL	Register No: 2020SPM317

Under the guidance of Dr. S. KAVITHA, M.Sc., M.Phil., SET., Ph.D. Assistant Professor of Mathematics



DEPARTMENT OF MATHEMATICS (SELF - FINANCED) HOLY CROSS COLLEGE (AUTONOMOUS) RE-ACCREDITED WITH A+ GRADE (CGPA 3.35). (AFFILIATED TO MANONMANIAM SUNDARANAR UNIVERSIT NAGERCOIL - 629004.

DECEMBER - 2021



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

Assistant Professor,

Department of Mathematics (Self - Financed),

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that this project work entitled "A STUDY ON ENERGY OF THE GRAPH " submitted by S. AGNES JENI (Register No. 2020SPM296), J. M. ASHA GOLD (Register No. 2020SPM304), V. RUPAL (Register No. 2020SPM317) of II M.Sc. Mathematics (Self - Financed). Holy Cross College (Autonomous), in partial fulfillment of the requirements for the award of the degree of MASTER OF SCIENCE IN MATHEMATICS is a bonafide record of the work done by them under supervision and guidance.

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

(Guide and Supervisor)

Place: Nagercoil Date: 15.12.2021

Umade 20/12/2021

Dr. B. UMA DEVI, M.Sc.,M.Phil,B.Ed.Ph.D Associate Professor Dept. of Mathematics, S.T. HINDU COLLEGE, Nagercoil

J. Anne Mary Leema

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

We hereby declare that this project work entitled "A STUDY ON ENERGY OF THE GRAPH " submitted by us for the Degree of MASTER OF SCIENCE IN MATHEMATICS is done under the guidance of Dr. S. KAVITHA, M.Sc., M.Phil., SET., Ph.D. Assistant Professor, Department of Mathematics (Self – Financed), Holy Cross College (Autonomous), and it has not been submitted for the award of degree, diploma, associateship or fellowship of any other University or Institution.

Place: Nagercoil Date : 15.12,2021

S. Agnes Juni S. AGNES JENI

J.M. Asha Gold J. M. ASHA GOLD

V. Rupal



CONTENTS	
----------	--

Chapter Number	Title	Page Number
	Introduction	1
I	Preliminaries	3
п	Energy of a graph	12
III	Equienergetic graphs	23
IV	Hyperenergetic and Hypoenergetic graphs	37
	Conclusion	46
	References	47



DEPARTMENT OF PHYSICS

STRUCTURAL ELUCIDATION, HIRSHFIELD SURFACE ANALYSIS AND VIBRATIONAL SPECTROSCOPIC SIGNATURES (FT-IR, FT-RAMAN) OF PYRAZOXYFEN – DFT APPROACH

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

R. FATHIMA NASREEN Reg. No:2020APP440

A. SERIN BANU

Reg. No:2020APP451

Under the Guidance of

Ms. S. J. JENEPHA MARY, M.Sc., M.C.A, M.Phil.,



DEPARTMENT OF PHYSICS

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL - 4

2021-2022

S. J. JENEPHA MARY

Assistant Professor of Physics, Holy Cross College (Autonomous), Nagercoil - 629004.

CERTIFICATE

This is to certify that this project report entitled "STRUCTURAL ELUCIDATION, HIRSHFIELD SURFACE ANALYSIS AND VIBRATIONAL SPECTROSCOPIC SIGNATURES (FT-IR, FT-RAMAN) OF PYRAZOXYFEN-DFT APPROACH" is a bonafide record of work done by Mrs. R. Fathima Nasreen and Miss. A. Serin Banu of II M.Sc Physics in partial fulfillment of the degree of Master of Science in Physics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmaniam Sundaranar University during the academic year 2020-2022 under my supervision.

ature of the Project guide

Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA., Signature of the Head of thes Department of Physics, Holy Cross College (Autonomous), Nagercoil, Kanyakumari District, Tamil Nadu. PIN: 629 004.

Signature of the Examiner



R. Fathima Nasreen, A. Serin Banu, II M.Sc Physics, Holy Cross College (Autonomous), Nagercoil - 629004.

DECLARATION

We hereby declare that this project report entitled "STRUCTURAL ANALYSIS AND SURFACE HIRSHFIELD ELUCIDATION, VIBRATIONAL SPECTROSCOPIC SIGNATURES (FT-IR, FT-RAMAN) OF PYRAZOXYFEN-DFT APPROACH" is a record of original work done by us under the guidance of S.J.Jenepha Mary, Holy Cross College (Autonomous), Nagercoil during the academic year 2021-2022.

Nasreen Jerin Signature of the candidate

Place: Nagercoil Date: 15-12-2021



SYNTHESIS AND CHARACTERISTICS OF FEW MILLET BIONANOPARTICLES

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

Master of Science in Physics

Under the guidance of

Ms. P. Aji Udhaya, M.Sc., M.Phil., SET., PGDCA.,

Submitted by

Miss. E. Blessy Nirupa Miss. K. Rumisha Reg. No. 2020APP438 Reg. No. 2020APP449



DEPARTMENT OF PHYSICS HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL - 629 004 (2021-2022) Ms. P. AJI UDHAYA, M.Sc., M.Phil., SET., PGDCA., ASSISTANT PROFESSOR IN PHYSICS HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL - 629 004 (2021-2022)

CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERISTICS OF FEW MILLETS BIONANOPARTICLES" is the bonafide record of the work independently done by Miss. E. Blessy Nirupa (2020APP438), Miss. K. Rumisha (2020APP449) under my guidance the year 2021-2022 in partial fulfillment for the award of Master of Science in Physics of Holy Cross College (Autonomous) Nagercoil.

I further certify that this dissertation or any part of it has not been submitted by her elsewhere for any other to the best of my knowledge.

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

oject Guid Signature

EXAMINERS



2)

Miss. E. Blessy Nirupa Miss. K. Rumisha Reg. No. 2020APP438 Reg. No. 2020APP449

M.Sc. Physics, Holy Cross College (Autonomous), Nagercoil - 629 004.

I hereby declare that this project work entitled is "SYNTHESIS AND CHARACTERISTICS OF FEW MILLETS BIONANOPARTICLES" an original work done by them in the Department of Physics, Holy Cross College (Autonomous) Nagercoil during the academic year 2021-2022.

Place: Nagercoil.

Date: 15.12.2021

K. Rumisha Signature of the candidate





OPTICAL PROPERTIES OF AMINO ACID CRYSTALS

PROJECT REPORT

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

MASTER OF SCIENCE IN PHYSICS

Submitted by

Name

Reg. No.

M. ASHIKA

2020APP435

M. MERISHA 2020APP446

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

2021-2022

Dr. M. ABILA JEBA QUEEN, M.Sc., M.Phil., SET., Ph.D.

DEPARTMENT OF PHYSICS

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629004

CERTIFICATE

This is to certify that the project entitled "OPTICAL PROPERTIES OF AMINO ACID CRYSTALS" is the bonafide record of the work independently done by Miss. M. Ashika (Reg.no: 2020APP435) and Miss. M. Merisha (Reg.no: 2020APP446), under my guidance in the year 2021-2022 in partial fulfillment 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 project report or any part of it has not been submitted by her elsewhere for any other to the best of my knowledge.

Drivmenta Souri

Dr. C. NIRMALA LOUIS, M.Sc. Proc. PGDU-Signature of Head of the Department PG & Research Department of Physics, Holy Cross College (Autonomous), Nagercoil, Kanyakumari District, Tamil Nadu. PIN: 629 004.

Signature of the Project Guide

Examiners



MISS. M. ASHIKA (REG. NO. 2020APP435)

MISS. M. MERISHA. (REG. NO. 2020APP446)

M.Sc. PHYSICS,

HOLY CROSS COLLEGE (AUTONOMOUS),

NAGERCOIL-629004.

DECLARATION

I hereby declare that this project work entitled "OPTICAL PROPERTIES OF AMINO ACID CRYSTALS" is an original work done by me in the Department of Physics, Holy Cross College (Autonomous), Nagercoil during the academic year 2021-2022.

M. Oshika M. Mouiska

Signature of the candidate

Place: Nagencoid. Date: 15-12-2021



EFFECT OF POTASSIUM PERMANGANATE ON PHYSICO-CHEMICAL & STRUCTURAL CHARACTERIZATION OF NATURAL FIBRES EXTRACTED FROM STEMS OF EICHHORNIA CRASSIPES

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

A. ASHA RANI

JEWINCY.S.RAJ

Reg no:(2020APP434, 2020APP445)

Under the Guidance of

Dr. R. Krishna Priya



DEPARTMENT OF PHYSICS HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-4

2021-2022

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

CERTIFICATE

This is to certify that this project report entitled "EFFECT OF POTASSIUM PERMANGANATE ON PHYSICO-CHEMICAL & STRUCTURAL CHARACTERIZATION OF NATURAL FIBRES EXTRACTED FROM STEMS OF EICHHORNIA CRASSIPES" is a bonafide record of work done by Miss. A. Asha Rani and Miss. Jewicy.S.Raj 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 2021-2022 under my supervision.

maladoui

Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA., Head & Assistant Professor, PG & Research Department of Physics, Signature of the Department Nagercoil, Kanyakumari District, Tamil Nadu. PIN: 629 004.

Signature of the Project guide

Signature of the Examiner



A. Asha Rani,

Jewincy.S. Raj

II M.Sc Physics,

Holy Cross College (Autonomous),

Nagercoil - 629004.

DECLARATION

We hereby declare that this project report entitled "EFFECT OF PHYSICO-CHEMICAL & ON POTASSIUM PERMANGANATE FIBRES NATURAL OF CHARACTERIZATION STRUCTURAL EXTRACTED FROM STEMS OF EICHHORNIA CRASSIPES" is a record of original work done by us under the guidance of Dr. R. Krishna Priya, Holy Cross College (Autonomous), Nagercoil during the academic year 2021-2022

A. Asha Rani Jewiney. S. Raj. Signature of the candidate A. Asha Rani, Jewincy .S. Raj

Place: Nagercoil Date: 15-12-2021



ENCHANCED PROPERTIES OF Mg₄Ni₁₋₄Fe₂O₄ NANO FILLER EMBEDDED EPOXY COMPOSITES

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

MASTER OF SCIENCE IN PHYSICS

By

Name

R.Anu Gayathri

J.Jenima

Reg. No 2020APP433 2020APP444

Under the guidance of

Dr. A. LESLY FATHIMA



DEPARTMENT OF PHYSICS

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629 004

2021-2022

Dr. A. LESLY FATHIMA, Assistant Professor of Physics, Holy Cross College (Autonomous), Nagercoil – 629004.

CERTIFICATE

This is to certify that this report "ENHANCED PROPERTIES OF Mg_xNi_1 . $_xFe_2O_4$ NANO FILLER EMBEDDED EPOXY COMPOSITES "is a bonafide record of the work done by, Miss. R.Anu Gayathri and Miss J.Jenima of II M.Sc Physics in partial fulfilment of the degree of Master of Science in Physics, Holy Cross College (Autonomous), Nagercoil affiliated to Manonmanium Sundaranar University during the academic year 2021 – 2022 under my supervision.

ima

Dr. C. NIRMALA LOUIS, M.Sc., Ph.D., PGDCA., Head & Assistant Professor, Head & Gethe Department Afre hysics, Holy Cross College (Autonomous), Holy Cross College (Autonomous), Holy Cross College (Autonomous), Tamil Nadu. PIN: 629 004.

Nagercoil - 4.

Signature of Project Guide

Signature of Examiners



R.Anu Gayathri J.Jenima II M.Sc. physics, Department of physics, Holy Cross College, Nagercoil - 629004.

DECLARATION

We hereby declare that this project report entitled "ENHANCED PROPERTIES OF Mg_xNi_{1-x}Fe₂O₄ NANO FILLER EMBEDDED EPOXY COMPOSITES" is a record of original work done by us under the guidance of Dr. A. LESLY FATHIMA, Holy Cross College (Autonomous), Nagercoil during the academic year 2021 - 2022

R. Inu Grayathr's Junima.J

Signature of students

R.Anu Gayathri,

J.Jenima.



Place: Nagercoil,

Date:

NAAC V Cycle Self Study Report (SSR)

DEPARTMENT OF CHEMISTRY

SOAP PRODUCTION FROM PLANT WASTE AND USED

COOKING OIL: A GREEN PERSPECTIVE

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

Ms. B.T. DELMA

Submitted by

S. ABARNA (Reg. No: 2020SPG321)

&

J. SAINTRIN ISHA (Reg. No: 2020SPG338)



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

DECEMBER-2021

CERTIFICATE

This is to certify that the project work entitled "SOAP PRODUCTION FROM PLANT WASTE AND USED COOKING OIL : A GREEN PERSPECTIVE" being submitted to Holy Cross College (Autonomous) affiliated to the ManonmaniamSundaranar University, Tirunelveli is the bonafide work of S. ABARNA and J. SAINTRIN ISHA, under my guidance and supervision during the academic year 2020-2021 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: 20. 12. 2021

Ms.B.T DELMA

(Guide and Supervisor)

Head of the Department

External Examiner

20 12.2021 1. 2.

We hereby declare that this project work entitled "SOAP PRODUCTION FROM PLANT WASTE AND USED COOKING OIL : A GREEN PERSPECTIVE" is being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the ManonmaniamSundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of 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 B.T. Delma, 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: 20.12. 2021

S. ABARNA	Albouna J
(Reg.No:2020S	PG321)
J. SAINTRIN	ISHA Jailon Sha
(Reg. No:2020	



SYNTHESIS AND CHARACTERISATION OF SILICA NANOPARTICLES FROM PALM SHELL AND COCONUT SHELL ASH

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

Ms. B.T. DELMA

Submitted by P.ABISHA (Reg. No:2020SPG320)

&

M.REMISHA (Reg. No: 2020SPG336)



DEPARTMENT OF CHEMISTRY

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629004

DECEMBER 2021



CERTIFICATE

This is to certify that the project work entitled "SYNTHESIS AND CHARACTERISATION OF SILICA NANOPARTICLES FROM PALM SHELL AND COCONUT SHELL ASH" being submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of M.REMISHA, under my guidance and supervision during the academic year 2020-2021 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: 20/12/2021

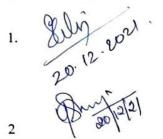
DELMA Ms.B

(Guide and Supervisor)

DownaRoy

Head of the Department

External Examiner





We hereby declare that AND this project **"SYNTHESIS** work CHARACTERISATION OF SILICA NANOPARTICLES FROM PALM SHELL AND COCONUT SHELL ASH " is being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of 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 B.T. Delma, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous) Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.



M.REMISHA

(Reg. No: 2020SPG336)

NAAC V Cycle Self Study Report (SSR)

STUDY ON INVITRO ANTIBACTERIAL ACTIVITY OF BIOSYNTHESIZED SILVER NANOPARTICLES FROM ARTOCARPUS HIRSUTUS PEEL AND FRUIT EXTRACT

Project work submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University in partial fulfilment of the requirement of the award of the degree of Master of Science in Chemistry Under the guidance of

Dr. M.Shirly Treasa

Submitted by

AKILA DEVI.S	(Reg. No: 2020SPG322)
LEKSHMI DEVI.M.J.	(Reg.No:2020SPG330)
POOJA.T	(Reg.no:2020SPG335)



DEPARTMENT OF CHEMISTRY

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629004

December 2021

CERTIFICATE

This is to certify that the project work entitled being STUDY ON INVITRO ANTIBACTERIAL ACTIVITY OF BIOSYNTHESIZED SILVER NANOPARTICLES FROM ARTOCARPUS HIRSUTUS PEEL AND FRUIT EXTRACT being submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of AKILA DEVLS, LEKSHMI DEVLM.J, POOJA.T under my guidance and supervision during the academic year 2020-2021 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: 20-12-2021

Dr. M.Shirly Treasa

(Guide and Supervisor)

Head of the Department

External Examiner

2012.2021 1. 2.

We hereby declare that this project work entitled "STUDY ON INVITRO ANTIBACTERIAL ACTIVITY OF BIOSYNTHESIZED SILVER NANOPARTICLES FROM ARTOCARPUS HIRSUTUS PEEL AND FRUIT EXTRACT " is being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of the degree of Master of Science in Chemistry is a record of the project work done by us during my period of study under the supervision and guidance of DR. M.SHIRLY TREASA, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous) Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

> S.AKILA DEVI & Aleik (Reg no: 2020SPG322) M.J.LEKSHMI DEVI H.J. Lekshmi (Reg no: 2020SPG330) T.POOJA Tojg (Reg no: 2020SPG335)

Place: Nagercoil Date: 20-12-2021

SYNTHESIS AND CHARACTERIZATION OF INCLUSION COMPLEXES OF ERYTHROMYCIN STEARATE WITH a-CYCLODEXTRIN

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. S.LIZY ROSELET

> > Submitted by

E.T.AKSHAYA (Reg. no: 2020SPG323) J.BINU HARISHMA (Reg. no: 2020SPG325)



DEPARTMENT OF CHEMISTRY HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 DECEMBER 2021

CERTIFICATE

This is to certify that the project work entitled "SYNTHESIS AND CHARACTERIZATION OF INCLUSION COMPLEXES OF ERYTHROMYCIN STEARATE WITH α-CYCLODEXTRIN" being submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of E.T.AKSHAYA, J.BINU HARISHMA under my guidance and supervision during the academic year 2021-2022 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.

Date: 20-12-2021

External Examiner

2.

Lig-

Dr. S.LIZY ROSELET (Guide and Supervisor)

Head of the Department

We hereby declare that this project work entitled "SYNTHESIS AND CHARACTERIZATION OF INCLUSION COMPLEXES OF ERYTHROMYCIN STEARATE WITH a-CYCLODEXTRIN" being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of the degree of Master of Science in Chemistry is a record of the project work done by us during my period of study under the supervision and guidance of Dr. S. Lizy Roselet, Assistant Professor, Department of Chemistry, Holy Cross College (Autonomous) Nagercoil. This dissertation or any part has not been submitted elsewhere for any other degree.

il

Place: Nagercoil

Date: 20-12-2021

E.T.AKSHAYA Alahari (Reg.no:2020SPG323) **J.BINU HARISHM**

(Regno: 2020SPG325)

FABRICATION OF STARCH-BASED BIOPLASTICS FROM RICE, CORN, ARROWROOT AND TAPIOCA

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. SHEEBA DANIEL

Submitted by

ANSI. I (Reg. No: 2020SPG324) SEETHU. C (Reg. No: 2020SPG340)



DEPARTMENT OF CHEMISTRY HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 DECEMBER 2021

CERTIFICATE

This is to certify that the project work entitled "FABRICATION OF STARCH-BASED BIOPLASTICS FROM RICE, CORN, ARROWROOT AND TAPIOCA" being submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of ANSI. I and SEETHU. C, under my guidance and supervision during the academic year 2021-2022 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: 20 12 2021

Dr. Sheeba Daniel

(Supervisor)

1 page

Head of the Department

External Examiner 1. 2.



DECLARATION

We hereby declare that this project work entitled "FABRICATION OF STARCH-BASED BIOPLASTICS FROM RICE, CORN, ARROWROOT AND TAPIOCA" is being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of 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. Sheeba Daniel, 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: 20/12/2021.

ANSI. I D. Juli .

(Reg. No: 2020SPG324) SEETHU.C (Reg. No: 2020SPG340)

SYNTHESIS, CHARACTERIZATION, ANTIMICROBIAL ACTIVITY AND PHOTOCATALYTIC PROPERTIES OF NICKEL OXIDE NANOPARTICLES

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.Y.CHRISTABEL SHAJI

Submitted by

CATHERINE SHIJI. Y (Reg. No: 2020SPG326) &

CHRISLIN MARIO.J.C (Reg. No: 2020SPG327)



DEPARTMENT OF CHEMISTRY HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 DECEMBER 2021

CERTIFICATE

"SYNTHESIS, This certify entitled 15 to that the project work CHARACTERIZATION, ANTIMICROBIAL ACTIVITY AND PHOTOCATALYTIC PROPERTIES OF NICKEL OXIDE NANOPARTICLES" being submitted to Holy Cross College (Autonomous) affiliated to the Manonmaniam Sundaranar University, Tirunelveli is the bonafide work of CATHERINE SHIJI.Y and CHRISLIN MARIO.J.C, under my guidance and supervision during the academic year 2021-2022 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: 20-12-202

Dr. Y. CHRISTABEL SHAJI

(Guide and Supervisor)

Head of the Department

External Examiner

1. 2. 12/21

DECLARATION

hereby We declare "SYNTHESIS, that this project work entitled CHARACTERIZATION, ANTIMICROBIAL ACTIVITY AND PHOTOCATALYTIC PROPERTIES OF NICKEL OXIDE NANOPARTICLES" is being submitted to Holy Cross College (Autonomous) Nagercoil, affiliated to the Manonmaniam Sundaranar University, Tirunelveli in partial fulfillment of the requirement for the award of 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.Y.CHRISTABEL SHAJI, 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: 20-12-202

CATHERINE SHIJI.Y Catherine Shiji Y

(Reg.No:2020SPG326)

CHRISLIN MARIO. J.C

(Reg.No: 2020SPG327)

DEPARTMENT OF BOTANY

PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF SELECT MEDICINAL PLANTS OF THELLANTHI VILLAGE, KANYAKUMARI DISTRICT, TAMILNADU, INDIA

Thesis submitted to Manonmaniam Sundaranar University In partial fulfillment of the requirements of the Degree of Master of Science in Botany

Submitted By

R. RAVEENA M. SABITHA

(Reg. No. 2020SPB345) (Reg. No. 2020SPB346)

Under the Guidance of

Dr. J. CELIN PAPPA RANI, 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 - 629004

DECEMBER - 2021

PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF SELECT MEDICINAL PLANTS OF THELLANTHI VILLAGE, KANYAKUMARI DISTRICT, TAMILNADU, INDIA

Thesis submitted to Manonmaniam Sundaranar University In partial fulfillment of the requirements of the Degree of Master of Science in Botany

Submitted By

R. RAVEENA M. SABITHA (Reg. No. 2020SPB345) (Reg. No. 2020SPB346)

Under the Guidance of

Dr. J. CELIN PAPPA RANI, 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 - 629004

DECEMBER - 2021

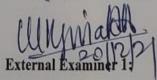
Dr. J. CELIN PAPPA RANI, M.Sc., M.Phil., Ph.D., Assistant Professor, Department of Botany, Holy Cross College (Autonomous) Nagercoil- 629004.

CERTIFICATE

This is to certify that the thesis entitled "PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF SELECT MEDICINAL PLANTS OF THELLANTHI VILLAGE, KANYAKUMARI DISTRICT, TAMILNADU, INDIA" 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 Miss. R. Raveena (Reg. No: 2020SPB345) Miss. M. Sabitha (Reg. No: 2020SPB346) during the period of July 2020 to December 2021 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, or any degree University / Institution.

2021 Head of the Department

Dr. C. JESPIN IDA, M.Sc., Ph.D., Associate Professor and Head, Department of Botany, Holy Cross College (Autonomous), Nagercoil - 629 004,



mo 200 **External Examiner**

I I I I I I

Guide/Supervisor

(Dr. J. Celin Pappa Rani)



Miss. R. Raveena (Reg. No : 2020SPB345) Miss. M. Sabitha (Reg. No : 2020SPB346) II M.Sc. Botany, Holy Cross College (Autonomous), Nagercoil – 629004.

DECLARATION

I hereby declare that the thesis entitled "PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF SELECT MEDICINAL PLANTS OF THELLANTHI VILLAGE, KANYAKUMARI DISTRICT, TAMILNADU, INDIA." is an authentic record of the work done by us under the supervision and guidance of Dr. J. Celin Pappa Rani, Assistant Professor, Department of Botany, Holy Cross College (Autonomous), Nagercoil - 629 004 and it has not been previously submitted for the award of any degree, diploma, association, fellowship of any University / Institution.

ii

Place: Nagercoil Date: 20 12 21 R. RAVEENA R. Raveena

M. SABITHA

NAAC V Cycle Self Study Report (SSR)

DEPARTMENT OF ZOOLOGY

HYDROBIOLOGICAL STUDIES OF ANTHANKULAM POND, KONAM, KANYAKUMARI DISTR

ject report submitted to Holy Cross College (Autonomous), Nagercoil, affiliate Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment of the requirements for the award of the Degree of

MASTER OF SCIENCE IN ZOOLOGY

Submitted By

A. ANTO NISHA

(Reg. No: 2020APZ455) P. S MOHAMED AFFRA (Reg. No: 2020APZ468)



DEPARTMENT OF ZOOLOGY

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL

DECEMBER-2021

BONAFIDE CERTIFICATE

This is to certify that the project entitled "HYDROBIOLOGICAL STUDIES OF ANANTHANKULAM POND, KONAM, KANYAKUMARI DISTRICT" is a bonafide record of work done by **A.** Anto Nisha (2020APZ455) and **P.S Mohamed** Affra (2020APZ468)under the guidance and supervision of **Dr. Jeni Chandar Padua**, 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.

External

Bor 20/12/202/

Head of the Department Dr. F. BRISCA RENUGA HOD - Department of Zoology Holy Cross College Nagercoil - 629 004

Submitted for Viva Voce Examination held on 20-12-2021

STUDY OF BMI ON SELECTED AGE GROUPS

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

MASTER OF SCIENCE IN ZOOLOGY

Submitted by

ASHA.D (Reg. No. 2020APZ456) KEERTHI.S (Reg. No. 2020APZ466)



DEPARTMENT OF ZOOLOGY

HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL – 629004 DECEMBER -2021



BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "Study of BMI on selected age groups" submitted by Ms. D. Asha (Reg. No. 2020APZ456) and Ms. S. Keerthi (Reg. No.2020APZ466) to Holy Cross College (Autonomous), Nagercoil affiliated to Manonmanium Sundaranar University, Tirunelveli towards partial fulfilment of the requirements for the award of the degree of Master of Science in Zoology is a bonafied record of the work carried out by them under the guidance and supervision of Dr. C. Josephine Priyatharshini, Assistant Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil during the academic year 2020-2021.

Supervisor

monaolia/000)

Head of the Department

Dr. F. BRISCA RENUGA HOD - Department of Zoology Holy Cross College Nagercoil - 629 004

External Examiner

Submitted for viva-voce examination held on 20.12.2021

A COMPARATIVE STUDY ON THE PROTEIN CONTENT OF FRESH AND OVEN DRIED MUSCLE OF SELECTED MARINE FISHES

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

MASTER OF SCIENCE IN ZOOLOGY

Submitted By

K.P. ASWATHY GOPIKA (Reg. No: 2020APZ457)S. JOSMINASIR(Reg. No: 2020APZ463)



DEPARTMENT OF ZOOLOGY HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL - 629004

DECEMBER - 2021



BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "A comparative study on the protein content of fresh and oven dried muscle of selected marine fishes" submitted by Ms.K.P. Aswathy Gopika (Reg.No. 2020APZ457) and Ms.S. Josmin Asir (Reg.No.2020APZ463) to Holy Cross College (Autonomous) Nagercoil affiliated to Manonmaniam Sundaranar University, Tirunelveli towards partial fulfillment of the requirements for the award of the degree of Master of Science in Zoology is a bonafide record of the work carried out by them under the guidance and supervision of Dr. J. Vinoliya Josephine Mary, Assistant Professor, Department of Zoology, Holy Cross College (Autonomous), Nagercoil during the academic year 2020-2021

Supervisor

ADIA

Head of the Department

Dr. F. BRISCA RENUGA HOD - Department of Zoology Holy Cross College Nagercoil - 629 004

External Examiner

Submitted for viva voce examination held on 20.

HYDROBIOLOGICAL STUDIES OF VEMBANOOR POND, KANYAKUMARI DISTRICT

Project report 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

J. JELIN BEAULAReg. No: 2020APZ460J. SAHAYA JERITTAReg. No: 2020APZ507



DEPARTMENT OF ZOOLOGY HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL – 629 004.

DECEMBER, 2021.





BONAFIDE CERTIFICATE

This is to certify that the project entitled "HYDROBIOLOGICAL STUDIES OF VEMBANOOR POND, KANYAKUMARI DISTRICT" is a bonafide record of work done by Ms. J. Jelin Beaula and Ms. J. Sahaya Jeritta under the guidance and supervision of Dr. Jeni Chandar Padua, 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.

30/19/908/

Head of the Department Dr. F. BRISCA RENUGA HOD - Department of Zoology Holy Cross College Nagercoil - 629 004

Submitted for Viva Voce Examination held on . 2.0. . 1.2 . 21

External Examiner

DACTYLOSCOPIC STUDIES ON SELECTED PEOPLE OF KANYAKUMARI 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 SCIENCE IN ZOOLOGY

Submitted By

J. Jobin Reena G.L. Sangeetha (Reg. No: 2020APZ462) (Reg. No: 2020APZ508)



DEPARTMENT OF ZOOLOGY HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL - 629004

DECEMBER, 2021

BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "Dactyloscopic studies on selected people of Kanyakumari District" submitted by Jobin Reena, J. (Reg. No: 2020APZ462) and Sangeetha, G.L (Reg. No:2020APZ508) towards the partial fulfillment of the requirements for the award of the degree of Master of Science in Zoology, is a bonafide record of the dissertation work carried out during the academic year 2020-2021, under the guidance and supervision of Dr. A. Shyla Suganthi, Assistant 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.

man 20/12/2021

Head of the Department of Zoology

Dr. F. BRISCA RENUGA HOD - Department of Zoology Holy Cross College Nagercoll - 629 004

Dr. A. Shyla Suganthi

Submitted for Viva Voice Examination held on 20.12.202 (

External Examine

DEPARTMENT OF ENGLISH

Art, The Touchstone of Reality: An Exploration of Aesthetic Illusionism in Donna Tartt's *The Goldfinch*

PROJECT SUBMITTED TO

Holy Cross College (Autonomous) Nagercoil [Manonmaniam Sundaranar University] IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS

submitted by

Benitta. G – 2020APE475

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



P.G & Research Department of English Holy Cross College (Autonomous) Nagercoil-4 December 2021

External Examiner



iv

Dr. H. Jimsy Asha, Assistant Professor, Department of English, Holy Cross College, Nagercoil - 629004.

CERTIFICATE

This is to certify that the project entitled, "Art, The Touchstone of Reality: An Exploration of Aesthetic Illusionism in Donna Tartt's *The Goldfinch*" submitted by Benitta. G of II M.A. English Literature is a bonafide research work done during 2021-2022 under my supervision and guidance and that the project has not previously formed the basis for the award to the candidate of any Degree, Diploma, Associateship, Fellowship or any other similar title.

Place: Nagercoil

Date: December 2021

Head of the Department

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

(Dr. H. Jimsy Asha)



New Vistas in Identity: A Thematic Study of Bernardine Evaristo's Girl, Woman, Other

PROJECT SUBMITTED TO

Holy Cross College (Autonomous) Nagercoil

[Manonmaniam Sundaranar University]

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF

MASTER OF ARTS

submitted by

Abisha Hari. S. U - 2020APE470 and Madhumitha. A. V - 2020APE489.

under the guidance of

Dr. Subha Ganapathy



P.G & Research Department of English Holy Cross College (Autonomous) Nagercoil-4 December 2021

10 20121202 External Examiner

iv

Dr. Subha Ganapathy, Assistant Professor, Department of English, Holy Cross College, Nagercoil - 629004.

CERTIFICATE

This is to certify that the project entitled "New Vistas in Identity: A Thematic Study of Bernardine Evaristo's Girl, Woman, Other" submitted by Abisha Hari. S. U and Madhumitha. A. V of II M.A. English Literature is a bonafide research work done during 2021-2022 under my supervision and guidance and that the project has not previously formed the basis for the award to the candidate of any Degree, Diploma, Associateship, Fellowship or any other similar title.

Place: Nagercoil

Date: December 2021

Head of the Department

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

Guide 3-6F

(Dr. Subha Ganapathy)



DEPARTMENT OF ENGLISH (S.F)

Seen vs Unseen and Psychological Perspective in Emma Donoghue's

Room

PROJECT SUBMITTED TO Holy Cross College (Autonomous), Nagercoil. [Manonmaniam Sundaranar University]

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF ARTS Submitted by

Bufrine J. Dafine

(Reg. No. 2020SPE379)

And

Harris Miriam P

(Reg. No. 2020SPE385)

Under the guidance of

Ms. M. Maria Helen Janoba



Department of English (Self - Financed)

Holy Cross College (Autonomous)

Nagercoil-4

December 2021

13/2021

External Examiner

CERTIFICATE

This is to certify that the project entitled "Seen vs Unseen and Psychological Perspective in Emma Donoghue's *Room*" submitted by Bufrine J. Dafine and Harris Miriam P of II MA English Literature is a bonafide research work done during 2021 -2022 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, Associateship, Fellowship or any other similar title.

Place: Nagercoil

Date: December 2021

Head of the Departm





(Ms. M. Maria Helen Janoba)

- 화려**다 바라 바라 있는 것이다.**

DECLARATION

The Project entitled "Seen vs Unseen and Psychological Perspective in Emma Donoghue's *Room*" is our original and independent work done under the guidance of Ms. M. Maria Helen Janoba, Assistant Professor of English and is submitted to the Department of English, Holy Cross College (Autonomous) affiliated to Manonmaniam Sundaranar University in partial fulfilment of the MA degree in English Literature. And it has not previously formed the basis for any award of Degree, Diploma, Associateship or any other title. We hereby declare that the facts are genuine and not based on any other research work.

Place: Nagercoil

Date: December 2021





CONTENTS

	Торіс	Page No.
	Certificate	
	Declaration	
	Acknowledgement	
	Preface	
Chapter I	Introduction	1 - 10
Chapter II	Psychological Analysis	11 - 25
Chapter III	Room Vs Real World	26 - 34
Chapter IV	Script to Screen	35 - 47
Chapter V	Summation	48 - 53
	Works Cited	54

AUMA AND FEMINISTIC PRESPECTIVE OF YEONMI PARK'S: IN ORDER

TO LIVE A NORTH KOREAN GIRL'S JOURNEY TO FREEDOM

PROJECT SUBMITTED TO

Holy Cross College (Autonomous), Nagercoil.

[Manonmaniam Sundaranar University]

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF

MASTER OF ARTS

Submitted by

Ancy Beutylin F

(Reg. No. 2020SPE371)

And

Dharshila D

(Reg. No. 2020SPE384)

Under the guidance of **Mrs. M. Maria Helen Janoba**



Department of English (Self-Financed)

Holy Cross College (Autonomous)

Nagercoil-4

December 2021

External Examiner

CERTIFICATE

This is to certify that the project entitled "Trauma and Feministic Perspective of Yeonmi Park's: *In Order to Live A North Korean Girl's Journey to Freedom*" submitted by Ancy Beutylin F and Dharshila D of II MA English Literature is a bonafide research work done during 2021-2022 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, Associateship, Fellowship or any other similar title.

Place: Nagercoil

Date: December 2021

Head of the Department

(MRS. TS Maria Brabing Sackaria) Hely Cross College (Autonomous) Nagercoll - 529 004.



(Mrs.M.Maria Helen Janoba)





DECLARATION

The Project entitled "Trauma and Feministic Perspective of Yeonmi Park's: *In Order to Live A North Korean Girl's Journey to Freedom*" is our original and independent work done under the guidance of Mrs. M. Maria Helen Janoba, Assistant Professor of English and is submitted to the Department of English, Holy Cross College (Autonomous) affiliated to Manonmaniam Sundaranar University in partial fulfilment of the MA degree in English Literature. And it has not previously formed the basis for any award of Degree, Diploma, Associateship or any other title. We hereby declare that the facts are genuine and not based on any other research work.

Place: Nagercoil



Date: December 2021

Ancy Beutylin F May But Dharshila D The T.

CHAPTER NO.	ΤΟΡΙϹ	PAGE NO.
	Certificate	
	Declaration	
	Acknowledgement	
	Preface	
Chapter I	Introduction	1-10
Chapter II	Feminism	11-18
Chapter III	Struggles	19-30
Chapter IV	Freedom	31-43
Chapter V	Summation	44-48
	Work Cited	49

CONTENTS



A Study of New Historicism and Secrecy of the Dozier School in Colson Whitehead's The Nickel Boys

Project Report Submitted to

Holy Cross College (Autonomous)

[Manonmaniam Sundaranar University]

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF

MASTER OF ARTS

Submitted by

Name

2. Mujitha. V

1. Juliyana Nivetha. E.

Reg. No

2020SPE387

2020SPE390

Under the guidance of

Ms.J.S Amlin Beatrice MA., PGDC (ELT)., MPhil



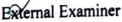
Department of English (Self - Financed)

Holy Cross College (Autonomous)

Nagercoil 629004

December-2021

T12/2021



CERTIFICATE

This is to certify that the project report entitled A Study of New

Historicism and Secrecy of the Dozier School in Colson Whitehead's The

Nickel Boys submitted by Juliyana Nivetha. E and Mujitha. Vis a bonafide research work done during 2021-2022 under my guidance and supervision and that the project has not previously formed the basis for the award to the candidate of any Degree, Diploma, Fellowship or any other similar title.

Place:Nagercoil,

Date:December 2021

Head of th

(Ms. J. Maria PrabinaSackaria)

PLANT TEPT OF REGISTE (SUF.) Noty Crass Galacy E (Build of 1985) Nagercuit - 525 804.



(Ms.Amlin Beatrice J. S)





DECLARATION

We declare that the project report entitledA Study of New Historicism and Secrecy of the Dozier School in Colson Whitehead's The Nickel Boysis our original and independent work, submitted Holy Cross College (Autonomous), Nagercoil in partial fulfillment of the requirements for the MA degree in English Literature. We hereby declare that they are genuine and not based on any other research work.

Signature Reg.No. Name K. Klp Bit 2020SPE387 Juliyana Nivetha. E. 2020SPE390

Place: Nagercoil

Mujitha. V.



Date:December 2021



Chapter No.	CONTENTS	Page No.
	Certificate	
	Declaration	
	Acknowledgement	
	Preface	
1	Introduction	1-8
II	New Historicism	9-24
ш	Trauma and Repression	25-40
IV	Segregation and Power in History	41-55
v	Summation	56-58
VI	Works cited	59-60

Exposing the rupture of Societal Stereotype through Fantasy as portrayed by Neil Gaiman in *The Graveyard Book*

PROJECT SUBMITTED TO Holy Cross College (Autonomous), Nagercoil.

[Manonmaniam Sundaranar University] IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF ARTS

Submitted by

Cathrin Jonisha. S

(Reg. No. 2020SPE380)

And

Princy Lifna Mol. L

(Reg. No. 2020SPE391)

Under the guidance of

Ms. S. T. Sreenidhi MA, MPhil.



Department of English (Self-Financed)

Holy Cross College (Autonomous)

Nagercoil-4

December 2021

13/2021

CERTIFICATE

This is to certify that the project entitled "Exposing the rupture of Societal Stereotype through Fantasy as portrayed by Neil Gaiman in *The Graveyard Book*" submitted by Cathrin Jonisha. S and Princy Lifna Mol. L of II M.A. English Literature is a bonafide research work done during 2021 -2022 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, Associateship, Fellowship or any other similar title.

Place: Nagercoil

Date: December 2021

Head of the Departme

(Mrs. J. Maria Prabina Sackaria) Conartment of English (S.F.) duy Cruss College (Autonomous) Nagercoil - 629 004.

reemidhi

(Ms. S.T. Sreenidhi)



DECLARATION

The Project entitled "Exposing the rupture of Societal Stereotype through Fantasy as portrayed by Neil Gaiman in *The Graveyard Book*" is our original and independent work done under the guidance of Ms. S. T. Sreenidhi, Assistant Professor of English and is submitted to the Department of English, Holy Cross College (Autonomous) affiliated to Manonmaniam Sundaranar University in partial fulfilment of the M.A. degree in English Literature. And it has not previously formed the basis for any award of Degree, Diploma, Associateship or any other title.

We hereby declare that the facts are genuine and not based on any other research work.

NameReg. NoCathrin Jonisha. S2020SPE380Princy Lifna Mol. L2020SPE391

s. cathrin Jonisha L. Lifha

Signature

Place: Nagercoil



Date: December 2021

用

CONTENTS

CHAPTER NO.		PAGE NO.
	Certificate	
	Declaration	
	Acknowlegement	
	Preface	
Chapter I	Introduction	1-5
Chapter II	Evil as Virtuous	6-23
Chapter III	Graveyard as Heterotopia	24-37
Chapter IV	Danse Macabre – Dance of Death	38-47
Chapter V	Summation	48-50
	Work Cited	51

B an

DEPARTMENT OF HISTORY

ROLE OF TAMILAGAMIN FREEDOM STRUGGLE

Raftasterthalital(to)HolyGrossCollege(Antonomous),Nagaradib parilal) AUfillicanto(thercapticanents)/ar (thecountlo/thedtyree()

MANTEROPARTS IN HISTORY

Submilledby

M.MagaretSelvaRani G.Nisha

2020SFHE53 2020SFHE53

Unlerthe Cullance of DaRSSounya MA_M. Rift, Ph.D.



DEPARTMENT OF HISTORY HOLYCROSS COLLEGE (AUTONOMOUS) NAGERCOIL- 629 004 DECEMBER- 2021

MARINO

HISTORICAL STUDY OF NOSARAM THIRU ZHMARBAN

abmitted to Holy Cross C. Automa ail in partial julilment of the surraments for the

award of the degree of

MASTER OF ARTS IN HISTORY

Submitted by

K. DIVYA

DHURMEN

2020SPH351

A. T. KAVITHA 2020SPH352

Under the Guidance of

Dr. C.R. SIVA KALA



DEPARTMENT OF HIS YORY

LY CROSS COLLEGE (AUTO) OMOUN

NAGERCOIL- 629 004

DECEMBER - 2021

DEPARTMENT OF ECONOMICS

AN ECONOMIC STUDY OF WOMEN FISH VENDORS WITH SPECIAL REFERENCE TO KADIVAPATTANAM VILLAGE OF KANYAKUMARI

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

MASTER OF ECONOMICS

Under the Guidance of MRS, M. SAHAYA VENNILA, MA. M.Phil, SEL

> Submitted by, MS. B. MARY BINU AKALYA

> > Reg. No. 2020SPF362



DEPARTMENT OF ECONOMICS HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL - 629 004 2021-2022

2022/6/13 101



REDMI 9 PRIME

DEPARTMENT OF COMMERCE (SF-I)

A STUDY ON SOCIO-ECONOMIC CONDITIONS OF FISHERMEN COMMUNITY

IN COLACHEL TOWN

Submitted to

Holy Cross College (Autonomous), Nagercoil.

In partial fulfillment of the requirements for the award of the Degree of

MASTER OF COMMERCE

Submitted by

MARIA NABISHA. P (2020SPA414)

MERIN AKISHA. S (2020SPA415)

Under the guidance of

Mrs. A. FRANKLIN RAGILA M. C. S., M. Com., M. Phil., NET.



DEPARTMENT OF COMMERCE

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629004

NOVEMBER-2021

DR.R. SREE DEVI. M.Com. M.Phil., Ph.D. Assistant Professor, Department of Commerce, Holy Cross College (Autonomous), Nagercoil – 629 004.

CERTIFICATE

This is certify that the project work entitled, "A STUDY ON CUSTOMER SATISFACTION TOWARDS HIMALAYA PRODUCTS IN NAGERCOIL TOWN" is a bonafide research work done by JERUSHA SIMNA. B and KIBISHA.D under my supervision and guidance and 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: 15-12-2021

S. Mostis Visto

Head of the department

Ms.S.Merlin Vists w Court PhilmEASLETINET, Reperiod the Department of the same (S.F. 1) If w Evense Collegies in reports Even of the States

Supervisor

12001 External Examiner



A STUDY ON CUSTOMER SATISFACTION TOWARDS HIMALAYA PRODUCTS IN NAGERCOIL TOWN

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 COMMERCE

Submitted by

Jerusha Simna. B (2020SPA410)

Kibisha. D (2020SPA411)

Under the guidance of

Dr.R. SREE DEVI, M.Com. M.Phil. Ph.D.



DEPARTMENT OF COMMERCE HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 NOVEMBER-2021

DR.R. SREE DEVI, M.Com, M.Phil., Ph.D.

Assistant Professor . Department of Commerce. Holy Cross College (Autonomous), Nagercoil - 629004.

CERTIFICATE

This is certify that the project work entitled, "A STUDY ON SAVING AND SPENDING BEHAVIOUR OF COLLEGE STUDENTS IN NAGERCOIL TOWN" is a bonafide research work done by LEENUS REXCY. A,LIBISHA THERES. B under my supervision, guidance and Submitted in partial fulfilment of the requirements for the degree of Master of Commerce. It has not been submitted for the award of any degree, diploma, or any similar title.

Supervisor

Place: Nagercoil

Date: 15/12/2021

S. Mestis Vista

Head of the department

Ms.S.Merlin Vista M Com.M.Phill MBA.SLET.NET. Head of the Department of Cremierre IS F IR

External Examiner



A STUDY ON SAVING AND SPENDING BEHAVIOUR OF COLLEGE STUDENTS IN NAGERCOIL TOWN

Submitted to

Holy Cross College (Autonomous). Nagercoil Afflicted to Manonmaniam Sundaranar University. Tirunelveli

In partial fulfilment of the requirement for the award of the Degree of

MASTER OF COMMERCE

Submitted by

LEENUS REXCY. A (2020SPA412) LIBISHA THERES. B (2020SPA413)

Under the guidance of

Dr.R. SREE DEVI, M.Com, M.Phil, Ph.D



DEPARTMENT OF COMMERCE HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 NOVEMBER-2021

Mrs. A. Franklin Ragila M. C. S., M.Com., M. Phil., NET.

Assistant Professor,

Department of Commerce,

Holy Cross College (Autonomous),

Nagercoil-629004.

CERTIFICATE

This is certify that the project work entitled, "A PROJECT REPORT ON RECRUITMENT AND SELECTION PROCESS IN ISRO MAHENDRAGIRI" is a bonafide research work done by Meronisha .Band Nivetha .Sunder my supervision and guidance and submitted in partial fulfillment of the requirements for the degree of Master of Commerce. It has not been previously submitted for the award of any degree, diploma, associateship or fellowship of any university or institution.

Place: Nagercoil

Date: 15-12-2021

Supervisor Mrs. A. Franklin Ragila

[12/201t Examiner

S. Mestis VIS

Head of the department

Mrs. S. Merlin Vista

A PROJECT REPORT ON RECRUITMENT AND SELECTION PROCESS IN ISRO MAHENDRAGIRI

Submitted to

Holy Cross College (Autonomous), Nagercoil.

In partial fulfillment of the requirements for the award of the Degree of

MASTER OF COMMERCE

Submitted by

MERONISHA .B (2020SPA416)

NIVETHA .S (2020SPA417)

Under the guidance of

Mrs. A. FRANKLIN RAGILA M. C. S., M. Com., M. Phil., NET.



DEPARTMENT OF COMMERCE

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-629004

NOVEMBER-2021

Dr. P. M. Sirumalar Rajam, M. Com., B.Ed., M.Phil., Ph.D.

Assistant Professor of Commerce,

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that the project entitled "A STUDY ON IMPACT OF COVID-19 ON THE LIVELIHOODS OF FISHERMEN COMMUNITY IN MUTTOM" is a bona-fide record of work doneby PRADESHA. J, SAHAYA JEBISHA.C 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 other similar titles.

Place: Nagercoil

Date: 15.12.202)

S. Mostin Viste Ms.S.Merlin Vista M. Com, M. Phil. MBA, SLEI, NEL. Read of the Department of Commerce (S.F - I) Holy Cross College (Automous) HEAD OF THE DEPARTMENT

SUPERVISOR

EXTERNAL EXAMINER

A STUDY ON IMPACT OF COVID-19 ON THE LIVELIHOODS

OF FISHERMEN COMMUNITY IN MUTTOM

Project report 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 COMMERCE

Submitted By

PRADESHA. J. 2020SPA418

SAHAYA JEBISHA.C. 2020SPA420



Under the guidance of

Dr. P. M. Sirumalar Rajam M. Com, B.Ed., M.Phil., Ph.D.

DEPARTMENT OF COMMERCE SELF FINANCE

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-4

NOVEMBER 2021

Dr. P. M. Sirumalar Rajam, M. Com., B.Ed., M.Phil., Ph.D.

Assistant Professor of Commerce,

Holy Cross College (Autonomous),

Nagercoil - 629 004.

CERTIFICATE

This is to certify that the project entitled " A STUDY ON PUBLIC BUS TRANSPORTATION SERVICES AFTER COVID-19 FROM THE PASSENGERS PERCEPTION IN NAGERCOIL TOWN " is a bona-fide record of work done by PREETHI BEULA.S, SAHAYA MESOTHA.V 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 other similar titles.

Place: Nagercoil Date: 15.12.2021

SUPERVISOR

S. Merlis Vista

Ms.S.Merlin Vista M.Com.M.Phil.MBA.SLET.NET., Read of the Department of Commerce (S.F.-1) Holy Cross College (Autonomous) Negercoll - 628 004. HEAD OF THE DEPARTMENT

EXTERNAL EXAMINER

A STUDY ON PUBLIC BUS TRANSPORTATION SERVICES AFTER COVID-19 FROM THE PASSENGERS PERCEPTION IN NAGERCOIL TOWN

Project report 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 COMMERCE

Submitted By

PREETHI BEULA.S

2020SPA419

SAHAYA MESOTHA.V

2020SPA421



Under the guidance of

Dr. P. M. Sirumalar Rajam M. Com, B.Ed., M.Phil., Ph.D. DEPARTMENT OF COMMERCE SELF FINANCE HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-4

NOVEMBER 2021

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

CERTIFICATE

This is to certify that the dissertation entitled "A STUDY ON CUSTOMER **PREFERENCE ON FASHION E-COMMERCE SITES**" is a bonafide record of the work done by **J.K HARISHA** and **HOORULEIN JUNAITH** under my supervision and guidance and submitted in partial fulfillment of the requirement for the degree of Master in Commerce. It has not formed the basis for the award of any degree, diploma or any other similar title.

Place: Nagercoil

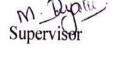
Date: 15.12.2021

S. Meslis Vista

Head of the Department

nancii fantan.

External Examiner





A STUDY ON MARKETING CONSTRAINTS OF FISH VENDORS IN KANYAKUMARI

Submitted to

Holy Cross College (Autonomous), Nagercoil. In partial fulfilment of the requirement for the award of the Degree of

MASTER OF COMMERCE

Submitted by

SAHAYA SOPNA.S(2020SPA424)SHABOORA YASMEEN.S(2020SPA425)

Under the guidance of

Dr. G. SAHAYA SHINY, M.Com., M.Phil., Ph.D.



DEPARTMENT OF COMMERCE HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL-629004 NOVEMBER-2021

Dr. G. SAHAYA SHINY

Assistant Professor in Commerce,

Holy Cross College (Autonomous),

Nagercoil-629004.

CERTIFICATE

This is certify that the project work entitled, "A STUDY ON CUSTOMER PERCEPTION TOWARDS JIO SIM IN NAGERCOIL TOWN" is a bonafide research work done by SAHAYA RENAT RESHMA.M and SAHAYA SHIYAMNI.B under my supervision and guidance and in partial fulfillment 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: 15/12/2021 S. Marlin Vista Head of the department

Supervisor

External Examiner





DEPARTMENT OF M.S.W

Consolidated Report on Block Placement Training SEMESTER II

April 2022 – May 2022

TVSSST-Srinivasan Services Trust, Thirukkurangudi, Tirunelveli District

Under The Guidance Of

Mrs. M.J AGNES CHRISTINA

(Assistant Professor, P.G Department of Social work)

Submitted By S. AARTHI



P.G DEPARTMENT OF SOCIAL WORK HOLY CROSS COLLEGE (AUTONOMUS) NAGERCOIL – 629 004

CONSOLIDATED REPORTON BLOCK PLACEMENT

(18th April2022 to 10th May2022)

At

ATHMA INSTITUTE OF MENTAL HEALTH

TRICHY

IV SEMESTER

Submitted by

S.APARNA

II MSW

(REG NO: 2020SPW430)



Under the guidance of

Mrs. MARY DEEBA. J

(Head ,PG department of social work)

Holy Cross College (Autonomous)



NAGAR COIL-629004

REPORT ON BLOCK PLACEMENT TRAINING

IN

MOBILITY INDIA, BANGALORE SEMESTER II

(18th April, 2022 - 10th May, 2022)

SUBMITTED BY

A. Infant Campbell Meni I MSW

UNDER THE GUIDENCE OF

Ms. C. Agnes Christina (Assistant Professor, P.G. Department of Social Work)



P.G. DEPARTMENT OF SOCIAL WORK HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL – 629 004

1

CONSOLIDATED REPORT ON BLOCK PLACEMENT TRAINING

At

GRAMEENA ABHYUDAYA SEVA SAMSTHE

Doddaballapura, Karnataka dist.

18 April 2022 - 10 May 2022

II semester

Submitted by

VISMAYA K.K

I MSW

Under the Guidance of

Ms. JINISHA

Assistant Professor of Social Work Department

Holy Cross College



P.G. DEPARTMENT OF SOCIAL WORK

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-4

CONSOLIDATED REPORT ON BLACK PLACEMENT

IN

TIRUCHIRAPALLI MULTIPURPOSE SOCIAL SERVICE SOCIETY,

TIRUCHIRAPALLI

SEMESTER II

(APRIL 2022 - MAY 2022)

SUBMITTED BY

R.Priyanka

I MSW

Reg. No 2021SPW398

UNDER THE GUIDENCE OF

Mrs. M.J.Agnes Chrristina

(Assistant Professor, P.G. Department of Social Work)



P.G DEPARTMENT OF SOCIAL WORK HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL – 629 004

CONSOLIDATED REPORT ON BLOCK PLACEMENT TRAINING

At

GRAMEENA ABHYUDAYA SEVA SAMSTHE

Doddaballapura, Karnataka dist.

18 April 2022 - 10 May 2022

II semester

Submitted by

VISMAYA K.K

I MSW

Under the Guidance of

Ms. JINISHA

Assistant Professor of Social Work Department

Holy Cross College



P.G. DEPARTMENT OF SOCIAL WORK

HOLY CROSS COLLEGE (AUTONOMOUS)

NAGERCOIL-4

CONSOLIDATED REPORT ON BLOCK PLACEMENT

IN

SHADITHIYA MENTAL HEALTH HOSPITAL

CHENNAI

(18th April 2022 - 10th May 2022)

SEMESTER-IV

Submitted by

Ms. J. Asma Rajalin

II MSW

REG NO: 2020SPW432



Under the guidance of

Ms. Jinisha

(Assistant Professor, P.G. Department of Social Work)

P.G DEPARTMENT OF SOCIAL WORK HOLY CROSS COLLEGE (AUTONOMOUS) NAGERCOIL – 629 004