

A STUDY ON NUMERICAL SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS USING NEWTON RAPHSON METHOD AND ITS QUALITATIVE BEHAVIOUR

Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of degree of Master of Science in Mathematics.

By

S.ABARNA

Reg. No: 2019MSCM01

Under the Guidance of

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET., (Ph.D)

Associate Professor and Head

Department of Mathematics



FATIMA COLLEGE (Autonomous)
(College with Potential for Excellence)

MADURAI – 625018.

APRIL 2021.

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET., (Ph.D)

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CERTIFICATE

This is to certify that this project entitled **“A STUDY ON NUMERICAL SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS USING NEWTON RAPHSON METHOD AND ITS QUALITATIVE BEHAVIOUR”** Submitted by **S.ABARNA., (Reg.No:2019MSCM01)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 21.03.2021



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INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
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The Madura College (Autonomous), Madurai-625018.

**A STUDY ON FRACTIONAL COLORINGS AND
MYCIELSKI'S GRAPHS**

A Project Submitted to Madurai Kamaraj University in Partial Fulfilment
of the Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS

Submitted by

A.ABINAYA

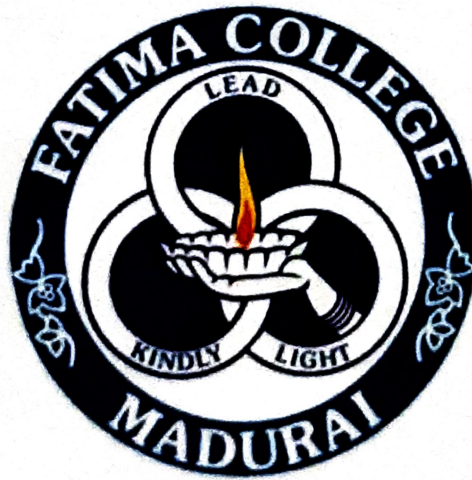
2019MSCM02

Under the Guidance of

Mrs.A.SHEELA ROSELIN,M.Sc,B.Ed,M.Phil,(Ph.D.)

Assistant Professor

Department of Mathematics



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Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs.A.SHEELA ROSELIN,M.Sc,B.Ed,M.Phil,(Ph.D.),

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This is to certify that this project entitled "**A STUDY ON FRATIONAL COLORINGS AND MYCIELSKI'S GRAPHS**" submitted by **A.ABINAYA, (Reg.No:2019MSCM02)** for the award of the degree of Master of Science in Mathematics is a Bonafide record of work carried out by her under my guidance and supervision.

Place: **MADURAI**

Date: **31/03/2021**



SIGNATURE OF THE
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SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
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**A STUDY ON THE CONNECTED DOMINATION NUMBER OF A GRAPH
&
APPLICATIONS OF CONNECTED DOMINATING SET IN WIRELESS
SENSOR NETWORKS - WATER MANAGEMENT SYSTEM**

Project submitted to Madurai Kamaraj University in partial fulfilment of the requirements for the award of degree of Master of Science in Mathematics.

By

R. ABINAYA

Reg. No: 2019MSCM03

Under the Guidance of
Dr. Sr. M. FATIMA MARY M.Sc., M.Phil., Ph.D.,
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Department of Mathematics



Fatima College [Autonomous]

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(NIRF) by MHRD Mary Land, Madurai-625018, TamilNadu.

APRIL 2021

Dr. Sr. M. FATIMA MARY, M.Sc., M.Phil., Ph.D.

Assistant Professor,

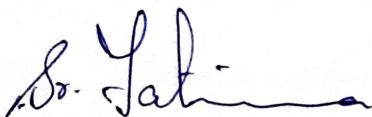
Department of Mathematics,

Fatima College,

Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled “A STUDY ON THE CONNECTED DOMINATION NUMBER OF A GRAPH AND APPLICATION OF CONNECTED DOMINATING SET IN WIRELESS SENSOR NETWORK - WATER MANAGEMENT SYSTEM” Submitted by **R. ABINAYA., (Reg.No:2019MSCM03)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
EXTERNAL EXAMINER Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

Place: Madurai.

Date: 31.03.2021



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

**A STUDY ON EL-ZAKI TRANSFORM AND SUMUDU TRANSFORM
IN CRYPTOGRAPHY AND ITS APPLICATIONS**

Project submitted to Madurai Kamaraj University in partial fulfilment of the requirements for
the award of Degree of **Master of Science in Mathematics**.

Submitted by

N.AMALA VIJONA

Reg. No: 2019MSCM04

Under the Guidance of

Dr. Mrs. C. Prasanna Devi. M.Sc. M.Phil., Ph.D.

Assistant Professor

Department of Mathematics



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Mary Land, MADURAI 625018, Tamil Nadu

APRIL 2021.

Dr. Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.

Assistant Professor,

Department of Mathematics,

Fatima College, Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON EL-ZAKI TRANSFORM AND SUMUDU TRANSFORM IN CRYPTOGRAPHY AND ITS APPLICATIONS**" Submitted by **N.AMALA VIJONA**, (Reg.No:2019MSCM04) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: **31.03.2021**



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INTERNAL EXAMINER



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HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,

Associate Professor

Department of Mathematics

The Madurai College (Autonomous), Madurai-625 018

STUDY ON COLORED GRAPHS AND THEIR PROPERTIES

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the
Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

I. ANANDAPRABA

2019MSCM05

Under the Guidance of

Dr. Mrs. E. HELENA, M.Sc., M.Phil., PGDCA., Ph.D.

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

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Land, Madurai-625018, Tamil Nadu.

MARCH 2021

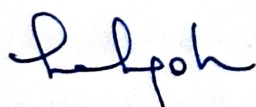
Dr. Mrs. E. HELENA, M.Sc., M.Phil., PGDCA., Ph.D.,
Assistant Professor,
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Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **“A STUDY ON COLORED GRAPHS AND THEIR PROPERTIES”** Submitted by **MS.I.ANANDAPRABA, (Reg.No:2019MSCM05)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31.03.2021*



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Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
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A STUDY ON REGULAR ROUND MATROIDS

A project submitted to Madurai Kamaraj university in partial fulfilment

Of the requirement for the award of degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

V.ANANTHI

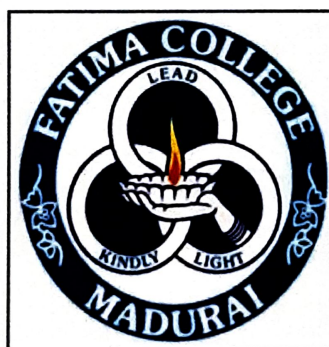
2019MSCM06

Under the guidance of

Mrs. M. TERESA NIRMALA M.Sc., M.Phil.,(Ph.D.)

Assistant professor

Department of Mathematics



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MaryLand, Madurai-625018, TamilNadu.

APRIL 2021

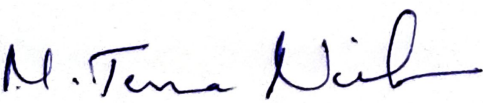
Mrs. M. TERESA NIRMALA M.Sc., M.Phil., (Ph.D.)
Assistant Professor,
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Fatima College,
Madurai -625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON REGULAR
ROUNDMATROIDS**" Submitted by **V. ANANTHI**
(**Reg.No:2019MSCM06**) for the award of the degree of Master of Science in
Mathematics is a bonafide record of work carried out by her under my guidance
and supervision.

Place: Madurai

Date: 31.03.2021


SIGNATURE OF THE
INTERNAL EXAMINER


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HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
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**A STUDY ON INTUITIONISTIC FUZZY BG-IDEAL ON
BG-ALGEBRA**

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

A.AROCKIA PRINCY

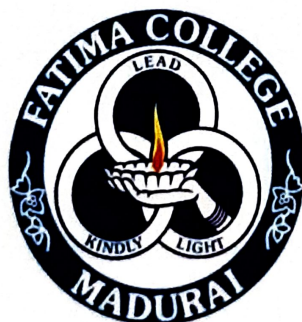
2019MSCM07

Under the Guidance of

Dr.V.VANITHA, M.Sc, M.Phil, B.Ed, ACIM, SET, Ph.D.,

Assistant professor

Department of Mathematics



Fatima College [Autonomous]

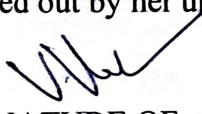
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MHRD MaryLand, Madurai-625018,
TamilNadu.

APRIL 2021

Dr. V. VANITHA, M.Sc., M.Phil., B.Ed., ACIM, SET., Ph.D.,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON INTUITIONISTIC FUZZY BG-IDEAL ON BG-ALGEBRA**" Submitted by **A. AROCKIA PRINCY, (Reg.No:2019MSCM07)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.


SIGNATURE OF THE
INTERNAL EXAMINER


SIGNATURE OF THE
EXTERNAL EXAMINER

Dr.R.PANDISELVI *M.Sc., M.Phil., Ph.D.,*
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

Place: **Madurai**
Date: **31-03-2021**


SIGNATURE OF THE

HEAD OF THE DEPARTMENT

A STUDY ON NEUTROSOPHIC BOOLEAN RINGS AND PROBABILITY THEORY

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S.DORATHY AROKIAMARY

2019MSCM08

Under the Guidance of

Ms.A.SAHAYA ROSELINE DIVYA,M.Sc.,B.Ed.,M.Phil.,(Ph.D).,

Assistant Professor

Department of Mathematics



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Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

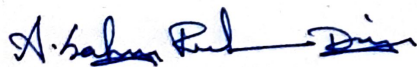
Ms.A.SAHAYA ROSELINE DIVYA,M.Sc.,B.Ed.,M.Phil.,(Ph.D).,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai - 625018.

CERTIFICATE

This is to certify that this project entitled “**A STUDY ON NEUTROSOPHIC BOOLEAN RINGS AND PROBABILITY THEORY**” Submitted by **S.DORATHY AROKIAMARY (Reg.No:2019MSCM08)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31.03.2021*



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INTERNAL EXAMINER**



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EXTERNAL EXAMINER**



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
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A STUDY ON FULL SEQUENTIALLY HAUSDORFF AND SEQUENTIALLY COMPACT SPACES

A Project submitted to Madurai Kamaraj University in partial
fulfillment of the requirements for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

B.EMALIN MARIEA

Reg. No.: 2019MSCM09

Under the Guidance of

Dr.Mrs.K.AMUTHA M.SC., M.Phil, B.Ed., Ph.D.,

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

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Mary Land, Madurai -625012, Tamil Nadu.

APRIL 2021

Dr.Mrs.K.AMUTHA M.SC., M.Phil, B.Ed., Ph.D.,

Assistant professor,

Department of Mathematics,

Fatima College,

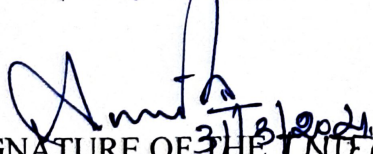
Madurai -625018.

CERTIFICATE

This is to certify that this project entitled "A STUDY ON FULL SEQUENTIALLY HAUSDORFF SPACES AND SEQUENTIALLY COMPACT SPACES" submitted by Ms. B.EMALIN MARIEA., (Reg. No.:2019MSCM09) for the award of the degree of Master of science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



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SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D..
Associate Professor
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A STUDY ON METHODS OF SOLVING A SYSTEM OF NONLINEAR EQUATIONS BY NUMERICAL METHODS

Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of degree of Master of Science in Mathematics.

Submitted by
M. GAYATHRI

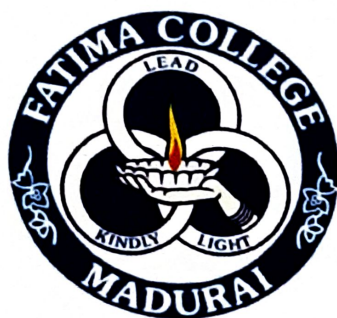
Reg.No: 2019MSCM10

Under the Guidance of

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET., (Ph.D.)

Associate Professor and Head

Department of Mathematics



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Mary Land, MADURAI 625018, Tamil Nadu

APRIL 2021.

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET., (Ph.D.)

Associate Professor and Head,

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Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled “**A STUDY ON METHODS OF SOLVING A SYSTEM OF NONLINEAR EQUATIONS BY NUMERICAL METHODS**” Submitted by **M.GAYATHRI., (Reg.No:2019MSCM10)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31. 3. 2021



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HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
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The Madura College (Autonomous), Madurai-625018.

**A STUDY ON INCIDENCE COLORING OF
GRAPH**

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
of the Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS

Submitted by

GNANESHMA.M

2019MSCM11

Under the Guidance of

Mrs.A.Sheela Roselin,M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

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74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs.A.Sheela Roselin, M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor,

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Madurai-625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON INCIDENCE
COLORING OF GRAPHS**" submitted by

M.GNANESHMA.,(Reg.NO:2019MSCM11) for the award of the degree of
Master of Science in Mathematics is a bonafide record of work carried out by
her under my guidance and supervision.

Place:Madurai

Date: 31. 03 . 2021



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HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
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A STUDY ON TOTAL COLORING OF A GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the
Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S.HARISHMA

2019MSCM13

Under the Guidance of

Dr. Sr. M. FATIMA MARY, M.Sc., M.Phil, Ph.D.,

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Department of Mathematics



Fatima College [Autonomous]

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Rank in India Ranking 2020 (NIRF) by MHRD Mary

Land, Madurai-625018,TamilNadu.

APRIL2021

Dr. Sr. M. FATIMA MARY ,M.Sc., M.Phil., Ph.D.,

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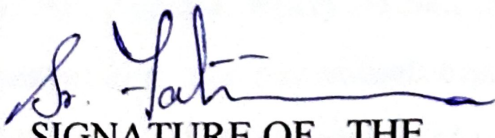
Department of Mathematics,

Fatima College,

Madurai -625018

CERTIFICATE

This is to certify that this project entitled **"A STUDY ON TOTAL COLORING OF GRAPHS** submitted by **Ms.S.HARISHMA., (Reg.No:2019MSCM13)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.



**SIGNATURE OF THE
INTERNAL EXAMINER**



**SIGNATURE OF THE
EXTERNAL EXAMINER**
Dr. R. RANDESHYAMINER, Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11,



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Place: *Madurai*

Date: *31.03.2021*

A STUDY ON FUZZY METRIC SPACE AND ITS APPLICATION

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
Of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

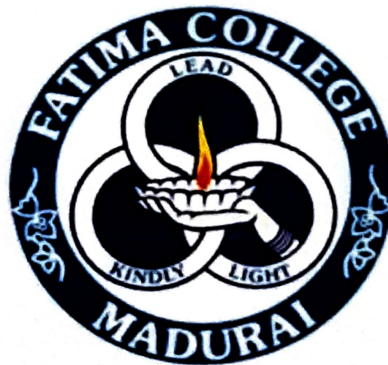
G. INDUMATHY

2019MSCM14

Under the Guidance of

Dr. C. Prasanna Devi , M.Sc., M.Phil., Ph.D.,

Assistant Professor
Department of Mathematics



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Mary Land, Madurai-625018, TamilNadu.

APRIL 2021

Dr. Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.,

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CERTIFICATE

This is to certify that this project entitled **“A STUDY ON FUZZY METRIC SPACE AND ITS APPLICATION”** submitted by **G.INDUMATHY., (Reg.No:2019MSCM14)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: **Madurai**

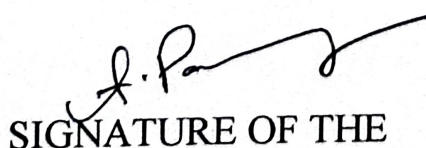
Date: **31.03.2021**



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SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON FUZZY COLORING AND ITS APPLICATIONS

Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of degree of Master of Science in Mathematics.

By

T. JEBASTINA

Reg. No: 2019MSCM15

Under the Guidance of

Dr. Mrs. E. Helena, M.Sc., M.Phil., PGDCA., Ph.D.,

Assistant Professor

Department of Mathematics



FATIMA COLLEGE (Autonomous)

(College with Potential for Excellence)

MADURAI 625018,

APRIL 2021.

Dr.Mrs. E. Helena, M.Sc., M.Phil., PGDCA., Ph.D.,

Assistant Professor,

Department of Mathematics,

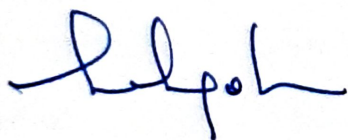
Fatima College, Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON FUZZY COLOURING AND ITS APPLICATIONS**" Submitted by **T. JEBASTINA, (Reg.No:2019MSCM15)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



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HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON LIE ALGEBRA AND LINEAR ALGEBRA

**A Project Submitted to Madurai Kamaraj University in Partial
Fulfillment of the Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS**

SUBMITTED BY

J.JENIFER SAHAYA JOSHI

2019MSCM16

Under the Guidance of

Mrs. M. Teresa Nirmala M.Sc.,M.Phil.,(Ph.D.)

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

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College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs.M.Teresa Nirmala M.Sc., M.Phil.,(Ph.D.)
Assistant Professor,
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Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled “AN INTRODUCTION TO LIE ALGEBRA” Submitted by Ms. J.JENIFER SAHAYA JOSHI (Reg.No:2019MSCM16) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: MADURAI

Date: 31.03.2021



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EXTERNAL EXAMINER



SIGNATURE OF

HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-625011

A STUDY ON AN EFFICIENT ALGORITHM FOR THE KNIGHT'S TOUR PROBLEM

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the
Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS

Submitted by

G. KAMALI

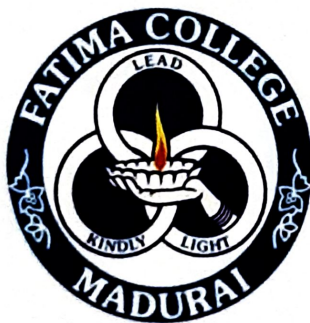
2019MSCM17

Under the Guidance of

Dr.V.VANITHA, M.Sc, M.Phil, B.Ed, ACIM, SET, Ph.D.

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-

2019) 74th Rank in India Ranking 2020 (NIRF) by

MHRD Mary Land, Madurai-625018, TamilNadu.

APRIL 2021

Dr. V. VANITHA, M.Sc., M.Phil., B.Ed., ACIM, SET., Ph.D.

Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

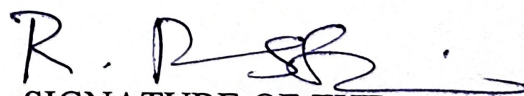
This is to certify that this project entitled **“A STUDY ON AN EFFICIENT ALGORITHM FOR THE KNIGHT’S TOUR PROBLEM”** Submitted by **MS. G. KAMALI., (2019MSCM17)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

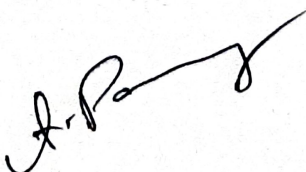
Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11,

A STUDY ON ULTRA NEUTROSOPHIC SETS AND THEIR APPLICATIONS

Project submitted to Madurai Kamaraj University in partial fulfilment of the requirements
for the award of degree of

Master of Science in Mathematics.

Submitted by

B.KARTHIKA

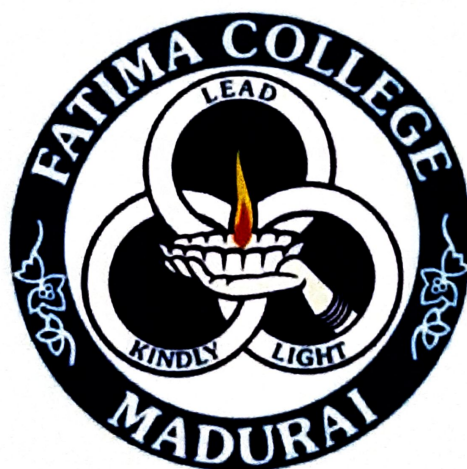
Reg. No: 2019MSCM18

Under the Guidance of

Ms. A. SAHAYA ROSELINE DIVYA, M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Ms. A. SAHAYA ROSELINE DIVYA, M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled " **A STUDY ON ULTRA NEUTROSOPHIC SETS AND THEIR APPLICATIONS**" Submitted by **B.KARTHIKA** (Reg.No:2019MSCM18) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

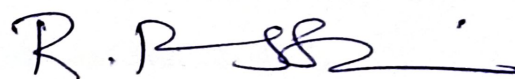
Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE

INTERNAL EXAMINER



SIGNATURE OF THE

EXTERNAL EXAMINER

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,

Associate Professor

Department of Mathematics

The Madura College (Autonomous), Madurai-625 018.



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

A STUDY ON TREES, ROOTED, BINARY TREES AND SPANNING TREES AND GENERATION OF TREES

A Project submitted to Madurai Kamaraj University in partial fulfillment of the
requirements for the award of degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted By

KAYALVIZHI. A

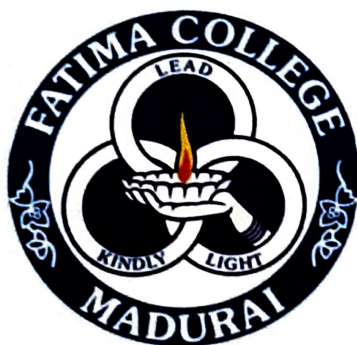
2019MSCM19

Under the Guidance of

Dr. Mrs. K. AMUTHA , M.Sc., M.Phil., B.Ed., Ph.D.,

Assistant Professor

Department of Mathematics



FATIMA COLLEGE [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Dr. Mrs. K. AMUTHA , M.Sc., M.Phil., B.Ed., Ph.D.,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai – 625018.

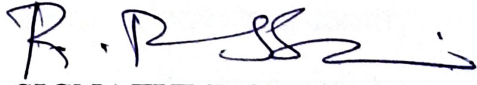
CERTIFICATE

This is to certify that this project entitled “**A STUDY ON TREES, ROOTED, BINARY TREES AND SPANNING TREES AND GENERATION OF TREES**” Submitted by **KAYALVIZHIA (2019MSCM19)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021


SIGNATURE OF THE
INTERNAL EXAMINER


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EXTERNAL EXAMINER


SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON TRAPEZOIDAL RULE IN NUMERICAL METHODS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the
Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

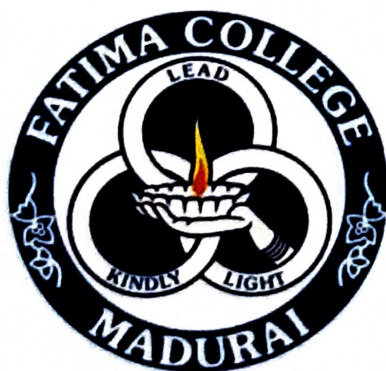
M.KESILDA

2019MSCM20

Under the Guidance of

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET, (Ph.D)

Associate Professor and Head
Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET, (Ph.D)
Associate Professor and Head,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **“A STUDY ON TRAPEZOIDAL RULE IN NUMERICAL METHODS”** Submitted by **Ms. M. KESILDA., (Reg.No:2019MSCM20)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31.03.2021*



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

A STUDY ON EQUITABLE COLORING OF GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
of the Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS

Submitted by
LISHANTHINI C
2019MSCM21

Under the Guidance of
Mrs. A. Sheela Roselin, M.Sc., B.Ed., M.Phil., (Ph.D.)
Assistant Professor
Department of Mathematics



Fatima College [Autonomous]
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College with Potential for Excellence (2004-2019)
74th Rank in India Ranking 2020 (NIRF) by MHRD
Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs. A. Sheela Roselin, M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor,

Department of Mathematics, Fatima College,

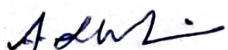
Madurai-625018.

CERTIFICATE

This is to certify that this project entitled “**A STUDY ON EQUITABLE COLORING OF GRAPHS**” submitted by **C.LISHANTHINI., (Reg. NO: 2019MSCM21)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.3.2021



SIGNATURE OF THE

INTERNAL EXAMINER



SIGNATURE OF THE

EXTERNAL EXAMINER

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-14



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

A STUDY ON RAINBOW DOMINATION IN GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the

Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

**V.MADONNA
2019MSCM22**

Under the Guidance of

Dr. Sr. M. FATIMA MARY, M.Sc., M.Phil, Ph.D.,

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC(3rd Cycle)

College with Potential for Excellence (2004-2019) 74th

Rank in India Ranking 2020 (NIRF) by MHRD Mary

Land, Madurai-625018, Tamil Nadu.

APRIL 2021

Dr. Sr. M. FATIMA MARY ,M.Sc., M.Phil., Ph.D.,

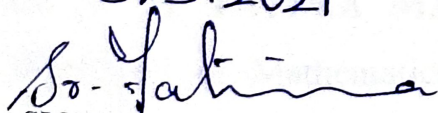
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **“A STUDY ON RAINBOW DOMINATION IN GRAPHS** submitted by **Ms. V.MADONNA.,** (Reg.No:2019MSCM22) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

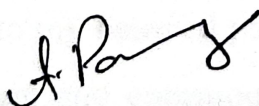
Date: *31.3.2021*



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INTERNAL EXAMINER



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HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-1

**A STUDY ON VARIATIONAL ITERATION METHOD FOR
SOLVING ORDINARY DIFFERENTIAL EQUATIONS AND DELAY
DIFFERENTIAL EQUATIONS USING ABOODH TRANSFORM**

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

Of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

A.MARSILIN BENINA

2019MSCM23

Under the Guidance of

Dr. C. Prasanna Devi , M.Sc., M.Phil., Ph.D.,

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC(3rd Cycle)

College with Potential for Excellence (2004-2019) 74th

Rank in India Ranking 2020 (NIRF) by MHRD Mary

Land, Madurai-625018, TamilNadu.

APRIL 2021

Dr. Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.,

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai -625018

CERTIFICATE

This is to certify that this project entitled **"A STUDY ON VARIATIONAL ITERATION METHOD FOR SOLVING ORDINARY DIFFERENTIAL EQUATIONS AND DELAY DIFFERENTIAL EQUATIONS USING ABOODH TRANSFORM"** submitted by **A.MARSILIN BENINA.,** (Reg.No:2019MSCM23) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31.3.2021*

C. P.

SIGNATURE OF THE
INTERNAL EXAMINER

J. P.

SIGNATURE OF THE
HEAD OF THE DEPARTMENT

R. P. S.

SIGNATURE OF THE
EXTERNAL EXAMINER

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madurai College (Autonomous), Madurai-625 018

A STUDY ON GRPAH COLORING AND THEIR PROPERTIES AND ITS APPLICATIONS

Project submitted to Madurai Kamaraj University in partial fulfillment of the
requirements for the award of degree of Master of Science in Mathematics.

By

A. NANCY JENIFER

Reg. No: 2019MSCM24

Under the Guidance of

Dr. Mrs. E. Helena, M.Sc., M.Phil., PGDCA., Ph.D.,

Assistant Professor

Department of Mathematics



FATIMA COLLEGE (Autonomous)
(College with Potential for Excellence)

MADURAI - 625 018.

APRIL 2021.

Dr. Mrs. E. Helena, M.Sc., M.Phil., PGDCA., Ph.D.,
Assistant Professor,
Department of Mathematics,
Fatima College, Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON GRAPH COLORING AND THEIR PROPERTIES AND ITS APPLICATIONS**" Submitted by **A.NANCY JENIFER, (Reg.No:2019MSCM24)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-625 013.

A STUDY ON FUZZY VERTEX ORDER COLORING

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

A. NASIBA

2019MSCM25

Under the Guidance of

Mrs. M. TERESA NIRMALA M.Sc., M.Phil., (Ph.D.)

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle) College with
Potential for Excellence (2004-2019) 74th Rank in India Ranking
2020 (NIRF) by MHRD Mary Land, Madurai-625018, Tamil Nadu.

APRIL 2021

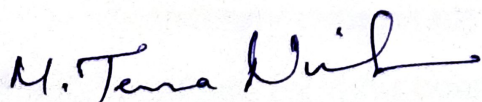
Mrs. M. TERESA NIRMALA M.Sc., M.Phil., (Ph.D.)
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled “**A STUDY ON FUZZY VERTEX ORDER COLORING**” Submitted by **A.NASIBA** (Reg.No:2019MSCM25) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11

**A STUDY ON PASCAL'S TRIANGLE, PASCAL'S PYRAMID,
AND THE TRINOMIAL TRIANGLE**

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

V.NIVETHA

2019MSCM26

Under the Guidance of

Dr.V.VANITHA,M.Sc,M.Phil,B.Ed,ACIM,SET,Ph.D.

Assistant Professor Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Dr. V. VANITHA, M.Sc., M.Phil., B.Ed., ACIM, SET., Ph.D.

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai -625018

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON PASCAL'S TRIANGLE, PASCAL'S PYRAMID, AND THE TRINOMIAL TRIANGLE**" Submitted by **V.NIVETHA**, (Reg.No:2019MSCM26) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: MADURAI

Date: 31-03-2021


SIGNATURE OF THE
INTERNAL EXAMINER


SIGNATURE OF THE
EXTERNAL EXAMINER


SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON ROLE OF NEUTROSOPHIC LOGIC IN DATA MINING AND E-LEARNING

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted

U.PONNI NIVEDHA

2019MSCM27

Under the Guidance of

Ms.A.SAHAYA ROSELINE DIVYA M.Sc.,B.Ed.,M.Phil.,(Ph.D).,

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

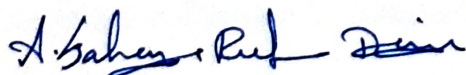
Ms.A.SAHAYA ROSELINE DIVYA,M.SC., B.Ed.,M.Phil.,(Ph.D).,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

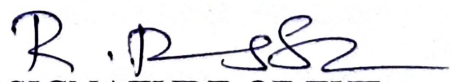
CERTIFICATE

This is to certify that this project entitled “**A STUDY ON ROLE OF NEUTROSOPHIC LOGIC IN DATA MINING AND E-LEARNING** ” Submitted by **U.PONNI NIVEDHA .,** (Reg.No:2019MSCM27) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: MADURAI

Date: 31.03.2021


SIGNATURE OF THE
INTERNAL EXAMINER


SIGNATURE OF THE
EXTERNAL EXAMINER

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.


SIGNATURE OF THE
HEAD OF THE DEPARTMENT

A STUDY ON MONITORING OF THE NETWORK TRAFFIC BASED ON QUEUEING THEORY

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

**Y. PRADEEPA
2019MSCM28**

Under the Guidance of

Dr.Mrs. K. AMUTHA, M.Sc., M.Phil., B.Ed., Ph.D.,
Assistant Professor Department
of Mathematics



Fatima College [Autonomous]

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College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

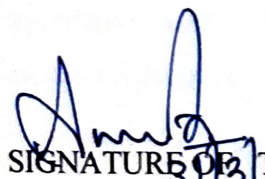
Dr. Mrs. K. AMUTHA ,M.Sc., M.Phil., B.Ed., Ph.D.,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **"A STUDY ON MONITORING OF THE NETWORK TRAFFIC BASED ON QUEUEING THEORY"** Submitted by **Y.PRADEEPA., (Reg.No:2019MSCM28)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: **MADURAI**

Date: **31.03.2021**


SIGNATURE OF THE
INTERNAL EXAMINER


SIGNATURE OF THE
EXTERNAL EXAMINER


SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-625 018

A STUDY ON SOLVING DIFFERENTIAL EQUATIONS USING NEWTON'S INTERPOLATION AND LAGRANGE'S METHODS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the
Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S. PRINCY

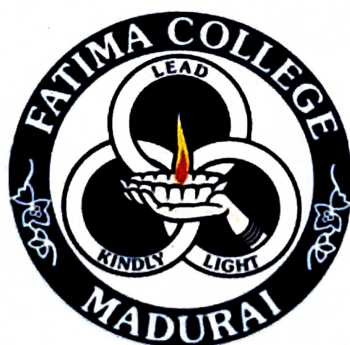
2019MSCM29

Under the Guidance of

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET, (Ph.D)

Associate Professor and Head

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC

(3rdCycle) College with Potential for Excellence

(2004-2019) 74th Rank in India Ranking 2020

(NIRF) by MHRD MaryLand, Madurai-

625018, TamilNadu.

APRIL- 2021

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA.,
SLET, (Ph.D)

Associate Professor and Head,
Department of Mathematics,
Fatima College,
Madurai -625018

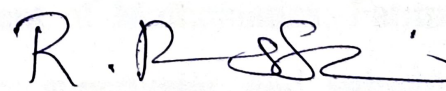
CERTIFICATE

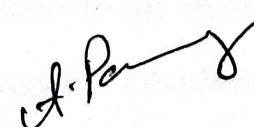
This is to certify that this project entitled “A STUDY ON SOLVING DIFFERENTIAL EQUATIONS USING NEWTON’S INTERPOLATION AND LAGRANGE’S METHODS” Submitted by Ms. S. PRINCY., (Reg.No:2019MSCM29) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021


SIGNATURE OF THE
INTERNAL EXAMINER


SIGNATURE OF THE
EXTERNAL EXAMINER


SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
Fatima College (Autonomous), Madurai-11.

A STUDY ON ACHROMATIC NUMBER AND ACHROMATIC COLORING

A Project Submitted to Madurai Kamaraj University in Partial
Fulfillment to the the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

B. PRIYATHARSHINI

2019MSCM31

Under the Guidance of

Mrs. A .SHEELA ROSELIN, M.Sc., B.Ed., M.Phil, (Ph.D.)

Assistant professor

Department of mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai - 625018, Tamil Nadu.

APRIL 2021

MRS. A. SHEELA ROSELIN, M.Sc., B.Ed., M.Phil., (Ph.D.)

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai -625018

CERTIFICATE

This is to certify that this project entitled **“A STUDY ON ACHROMATIC NUMBER AND ACHROMATIC COLORING”**

Submitted by **B. PRIYATHARSHINI., (Reg.No:2019MSCM31)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



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SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON FALL COLORING OF A GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment of the

Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

C.RAMYA BHARATHY
2019MSCM32

Under the Guidance of

Dr. Sr. M. FATIMA MARY, M.Sc., M.Phil, Ph.D.,

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC(3rdCycle) College with
Potential for Excellence (2004-2019) 74th Rank in India Ranking 2020
(NIRF) by MHRD Mary Land, Madurai-625018, TamilNadu.

APRIL 2021

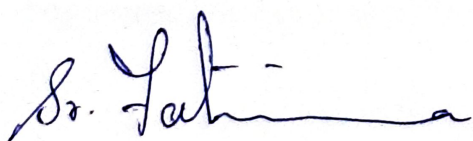
Dr. Sr. M. FATIMA MARY ,M.Sc., M.Phil., Ph.D.,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **“A STUDY ON FALL COLORING OF GRAPHS** submitted by **Ms. C.RAMYA BHARATHY., (Reg.No:2019MSCM32)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31.03.2021*



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE

EXTERNAL EXAMINER
Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,

Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

A STUDY ON CRYPTOGRAPHY

A Project submitted to Madurai Kamaraj University in partially fulfillment of the requirements for the award of degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

G.RENISHA

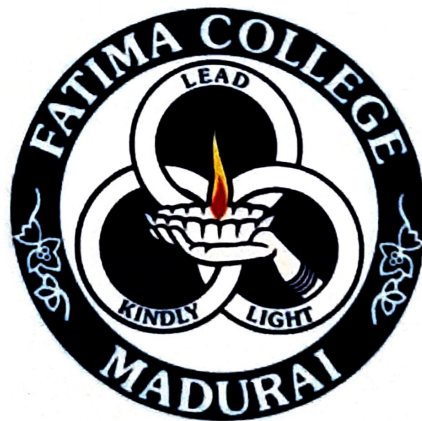
Reg. No: 2019MSCM33

Under the Guidance of

Dr.Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

**Re-Accredited with 'A' Grade by NAAC (3rd Cycle) College with
Potential for Excellence (2004-2019)**

**74th Rank in India Ranking 2020 (NIRF) by MHRD Mary Land,
Madurai -625018, Tamil Nadu.**

APRIL 2021

Dr.Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.,

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Department of Mathematics,

Fatima College,

Madurai- 625018.

CERTIFICATE

This is to certify that this project entitled "A STUDY ON CRYPTOGRAPHY" submitted by **Ms.G.RENISHA, (Reg.No:2019MSCM33)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

PLACE: MADURAI

DATE: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

CRITICAL GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

**K. REVATHY
2019MSCM34**

Under the Guidance of

Dr. Mrs. E. HELENA, M.Sc.,M.Phil,PGDCA,Ph.D.

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

MARCH 2021

Dr. Mrs. E. HELENA, M.Sc., M.Phil, PGDCA, Ph.D.
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled **"CRITICAL GRAPHS"** Submitted by **K. REVATHY, (Reg.No:2019MSCM34)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: MADURAI

Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
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SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON THE DIRECTED FOREST COMPLEX OF CAYLEY GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial

Fulfillment of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S.SANGAVI

2019MSCM35

Under the Guidance of

Mrs.M.TERESA NIRMALA M.Sc.,M.Phil.,(Ph.D.)

Assistant professor
Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC

(3rd Cycle) College with Potential for Excellence

(2004-2019) 74th Rank in India Ranking

2020 (NIRF) by MHRD Mary Land, Madurai-

625018, Tamil Nadu.

APRIL 2021

Mrs.M.TERESA NIRMALA M.Sc., M.Phil.,(Ph.D.)
Assistant Professor,
Department of Mathematics,
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Madurai -625018

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON THE DIRECTED FOREST COMPLEX CAYLEY GRAPHS**" Submitted by **S.SANGAVI (Reg.No:2019MSCM35)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: *Madurai*

Date: *31. 3. 2021*

M. Teresa Nirmala

SIGNATURE OF THE
INTERNAL EXAMINER

R. Pandiselvi

SIGNATURE OF THE
EXTERNAL EXAMINER

J. Pandiselvi

SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON BIPOLAR VALUED FUZZY SUBGROUPS OF GROUP

A Project submitted to Madurai Kamaraj University in partial fulfilment of the requirements for the award of the degree of Master of Science in Mathematics

By

SELCIYA MARY A

Reg No: 2019MSCM36

Under the guidance of

Dr. V. Vanitha, M.Sc., M.Phil. B.Ed., ACIM. SET., Ph.D.,

Assistant professor

Department of Mathematics



FATIMA COLLEGE (AUTONOMOUS)

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with potential for excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai – 625018, Tamil Nadu.

APRIL 2021

Dr. V. Vanitha, M.Sc., M.Phil., B.Ed., ACIM., SET., Ph.D.

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai – 625018.

CERTIFICATE

This is to certify that the project report entitled “A Study on Bipolar Valued Fuzzy Subgroups of Group” is the bonafide record work done by SELCIYA MARY A (Reg No: 2019MSCM36) in partial fulfilment of the requirement for the award of degree Master of Science in Mathematics, Fatima College during the academic year 2019-2021.



SIGNATURE OF THE
THE INTERNAL EXAMINER



SIGNATURE OF
EXTERNAL EXAMINER



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-625 011

Place: Madurai

Date: 31.03.2021

A STUDY ON NEUTROSOPHIC MATRIX AND ITS APPLICATIONS

A Project Submitted to Madurai Kamaraj University in Partial
Fulfillment of the Requirement for the Award of Degree of
MASTER OF SCIENCE IN MATHEMATICS

Submitted by

L.SOUNDARYA MERIN CHRISTY

2019MSCM38

Under the Guidance of

Ms.A. SAHAYA ROSELINE DIVYA ,M.Sc.,B.Ed.,M.Phil.,(Ph.D).,

Assistant Professor

Department of Mathematics



FATIMA COLLEGE [Autonomous]

Re-Accredited with 'A' Grade by NAAC(3rdCycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai-625018, Tamil Nadu.

APRIL 2021

Ms. A. SAHAYA ROSELINE DIVYA ,M.Sc.,B.Ed.,M.Phil.,(Ph.D).,
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018.

CERTIFICATE

This is to certify that this project entitled "A STUDY ON
NEUTROSOPHIC MATRIX AND ITS APPLICATIONS"
submitted by L.SOUNDARYA MERIN CHRISTY.,
(2019MSCM38) for the award of the degree of Master of Science in
Mathematics is a bonafide record of work carried out by her under
my guidance and supervision.

Place: Madurai

Date: 31-03-2021



SIGNATURE OF THE

INTERNAL EXAMINER



SIGNATURE OF THE

EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON INTUITIONISTIC ACYCLIC COLORING IN GRAPH THEORY

A Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements
for the Award of Degree of

Master of Science in Mathematics

Submitted By

J.SUBASHINI

Reg. No: 2019MSCM39

Under the Guidance of

Dr.Mrs.K.AMUTHA, MSc.,M.Phil.,B.Ed.,Ph.D.,

Assistant Professor

Department of Mathematics



FATIMA COLLEGE (Autonomous)

Re- Accredited with 'A' Grade by NAAC (3rd cycle)

College with Potential for Excellence(2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land , MADURAI – 625018,Tamil Nadu.

APRIL 2021.

Dr.Mrs.K.AMUTHA,MSc.,M.Phil.,BE.d.,Ph.D.,

Assistant professor,

Department of Mathematics,

Fatima College,

Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled “A STUDY OF ACYCLIC COLORING “
Submitted by **Ms. J.SUBASHINI., (Reg.No:2019MSCM39)** for the award of the degree of
Master of Science in Mathematics is a bonafide record of work carried out by her under my
guidance and supervision.

Place : Madurai

Date : 31.03.2021

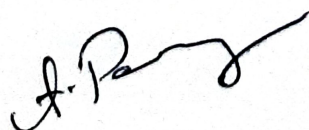

SIGNATURE OF THE

INTERNAL EXAMINER



SIGNATURE OF THE

EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON SOLVING NON LINEAR PARTIAL DIFFERENTIAL EQUATIONS USING CHARPIT'S AND JACOBI'S METHODS

Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirements for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

S. SUJITHA

2019MSCM40

Under the Guidance of

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET.,(Ph.D)

Associate Professor and Head

Department of Mathematics



FATIMA COLLEGE(Autonomous)

Re-Accredited with 'A' Grade by NAAC(3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020(NIRF) by MHRD

Mary Land, MADURAI-625 018, Tamil Nadu.

APRIL 2021

Mrs. A. Paulin Mary, M.Sc., M.Ed., M.Phil., PGDCA., SLET.,(Ph.D)

Associate Professor,

Department of Mathematics,

Fatima college,

Madurai-625 018.

CERTIFICATE

This is to certify that this project entitled “ **A STUDY ON SOLVING NON LINEAR PARTIAL DIFFERENTIAL EQUATIONS USING CHARPIT’S AND JACOBI’S METHODS**” submitted by **Ms. S. SUJITHA., (Reg. no:2019MSCM40)** for the award of the degree of Master of Science in Mathematics is a bonofide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON LIST COLORING OF CHROMATIC NUMBER AND ITS APPLICATIONS

Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of degree of Master of Science in Mathematics.

By

C. THAMAYANTHI

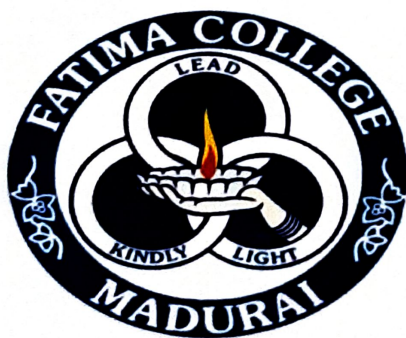
Reg. No: 2019MSCM41

Under the Guidance of

Mrs. A. Sheela Roselin, M.Sc., B.Ed., M.Phil., (Ph.D)

Assistant Professor

Department of Mathematics



FATIMA COLLEGE (Autonomous)

(College with Potential for Excellence)

MADURAI 625018,

APRIL 2021.

Mrs. A. Sheela Roselin, M.Sc.,B.Ed., M.Phil.,(Ph.D)

Assistant Professor,

Department of Mathematics,

Fatima College, Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON LIST COLORING OF CHROMATIC NUMBER AND ITS APPLICATIONS**" Submitted by **C.THAMAYANTHI (Reg.No:2019MSCM41)** for the award of the degree of Master of Science in Mathematics is a Bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.3.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE HEAD OF
THE DEPARTMENT

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.

A STUDY ON LAPLACE AND KAMAL TRANSFORM IN CRYPTOGRAPHY

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment
Of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

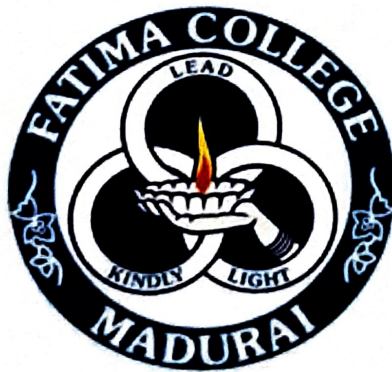
P. VILLVAPRIYA

2019MSCM43

Under the Guidance of

Dr. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.,

**Assistant Professor
Department of Mathematics**



Fatima College [Autonomous]

**Re-Accredited with 'A' Grade by NAAC (3rd Cycle) College with
Potential for Excellence (2004-2019) 74th Rank in India Ranking 2020
(NIRF) by MHRD Mary Land, Madurai-625018, TamilNadu.**

APRIL 2021

Dr. Mrs. C. Prasanna Devi, M.Sc., M.Phil., Ph.D.,

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai -625018

CERTIFICATE

This is to certify that this project entitled “A STUDY ON LAPLACE AND KAMAL TRANSFORM IN CYPTOGRAPHY” submitted by **P. VILLVAPRIYA., (Reg.No:2019MSCM43)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER

Dr.R.PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Place: Madurai.

Date: 31.03.2021

DOMINATION NUMBER IN GRAPHS

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

D. VISHWA PRIYA

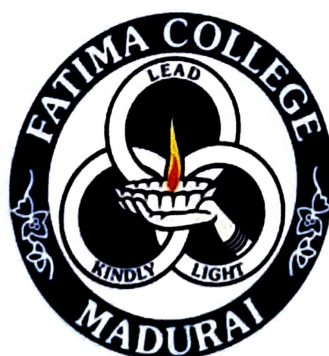
2019MSCM44

Under the Guidance of

Dr. Mrs. E. HELENA, M.Sc., M.Phil, PGDCA, Ph.D.

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

MARCH 2021

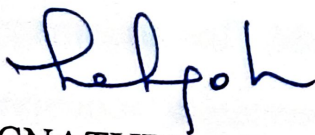
Dr. Mrs. E. HELENA, M.Sc., M.Phil, PGDCA, Ph.D.
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

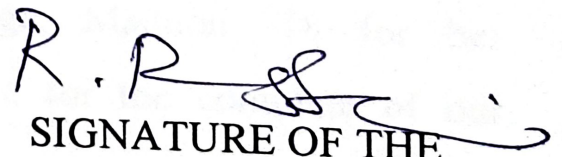
This is to certify that this project entitled "**DOMINATION IN GRAPHS**" Submitted by **D. VISHWA PRIYA, (Reg.No:2019MSCM44)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: MADURAI

Date: 31. 03. 2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11

A STUDY ON FUZZY REGULAR GRAPH

A Project Submitted to Madurai Kamaraj University in Partial Fulfillment

of the Requirement for the Award of Degree of

MASTER OF SCIENCE IN MATHEMATICS

Submitted by

N. YOGALAKSHMI

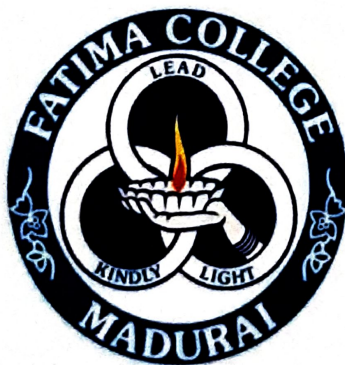
2019MSCM45

Under the Guidance of

Mrs. M. TERESA NIRMALA M.Sc., M.Phil., (Ph.D.)

Assistant Professor

Department of Mathematics



Fatima College [Autonomous]

Re-Accredited with 'A' Grade by NAAC (3rd Cycle)

College with Potential for Excellence (2004-2019)

74th Rank in India Ranking 2020 (NIRF) by MHRD

Mary Land, Madurai -625018, Tamil Nadu.

APRIL 2021

Mrs. M. TERESA NIRMALA M.Sc., M.Phil., (Ph.D.)
Assistant Professor,
Department of Mathematics,
Fatima College,
Madurai -625018

CERTIFICATE

This is to certify that this project entitled "**A STUDY ON FUZZY REGULAR GRAPH**" Submitted by **N. YOGALAKSHMI** (Reg.No:2019MSCM45) for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE
INTERNAL EXAMINER



SIGNATURE OF THE
EXTERNAL EXAMINER

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-11.



SIGNATURE OF THE
HEAD OF THE DEPARTMENT

A STUDY ON STABLE AND PSEUDO STABLE NEAR-RINGS

Project submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of degree of Master of Science in Mathematics.

By

T. SUSHMA

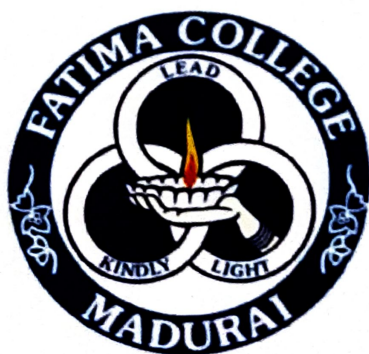
Reg.No: 2019MSCM46

Under the Guidance of

Dr. V. VANITHA, M.Sc., M.Phil., B.Ed., ACIM., SET., Ph.D.

Assistant Professor

Department of Mathematics



FATIMA COLLEGE (Autonomous)
(College with Potential for Excellence)

MADURAI – 625018.

APRIL 2021.

Dr. V. VANITHA, M.Sc., M.Phil., B.Ed., ACIM., SET., Ph.D.

Assistant Professor,

Department of Mathematics,

Fatima College,

Madurai – 625018.

CERTIFICATE

This is to certify that this project entitled “**A STUDY ON STABLE AND PSEUDO STABLE NEAR-RINGS**” Submitted by **T. SUSHMA, (Reg.No:2019MSCM46)** for the award of the degree of Master of Science in Mathematics is a bonafide record of work carried out by her under my guidance and supervision.

Place: Madurai

Date: 31.03.2021



SIGNATURE OF THE
THE INTERNAL EXAMINER



SIGNATURE OF
EXTERNAL EXAMINER



SIGNATURE OF THE

HEAD OF THE DEPARTMENT

Dr. R. PANDISELVI M.Sc., M.Phil., Ph.D.,
Associate Professor
Department of Mathematics
The Madura College (Autonomous), Madurai-625 018