A STUDY ON QUEUING THEORY AND ITS APPLICATIONS

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

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Under the guidance of

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DEPARTMENT OF MATHEMATICS

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This is to certify that this project work entitled "A STUDY ON QUEUING THEORY AND ITS APPLICATIONS" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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Signature of the SSC Coordinator

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First of all, we thank the Almighty for showering his blessings to undergo this project.

We express our sincere gratitude and heartfelt thanks to our Principal Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly permitted us to do this project.

We express our gratitude to **Dr. P. Anbarasi Rodrigo M.Sc.**, **B.Ed.**, **Ph.D.**, SSC Coordinator, Department of Mathematics for her inspirational ideas and encouragement.

We are very thankful to our guide **Dr. P. Anbarasi Rodrigo M.Sc., B.Ed., Ph.D.,** Assistant Professor, Department of Mathematics

(SSC) for her efficient and effective guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our efforts. Finally, we thank all those who extended their help regarding this project.

Place: Thoothukudi

Date: 16.09. 2020

A STUDY ON SPHERICAL TRIGNOMETRY

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

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in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

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This is to certify that this project work entitled "A STUDY ON SPHERICAL TRIGNOMETRY" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students.

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REGISTER NUMBER

M. BANUSREE

17SUMT02

M. HEMA

17SUMT11

B. JANAKI

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Е. МЕЦЛІУА

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First of all, we thank the Almighty for showering his blessings to

undergo this project.

We express our sincere gratitude and heartfelt thanks to our Principal

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to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly

permitted us to do this project.

We express our gratitude to Dr. P. Anbarasi Rodrigo M.Sc., B. Ed.,

Ph.D., SSC Coordinator, Department of Mathematics for her inspirational

ideas and encouragement.

We are very thankful to our guide Ms. H. Sujitha M.Sc., M.Phil.,

Assistant Professor, Department of Mathematics (SSC) for her efficient

and effective guidance. She played a key role in the preparation of this

project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16/09/2020

A STUDY ON GRAPH COLORING

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

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in partial fulfilment for the award of the degree of

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This is to certify that this project work entitled "A STUDY ON GRAPH COLORING" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students

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Queix Rose

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First of all, we thank the Almighty for showering his blessings to undergo this

project.

We express our sincere gratitude and heartfelt thanks to our Principal

Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and to

our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly

permitted us to do this project.

We express our gratitude to Dr. P.Anbarasi Rodrigo M.Sc., B. Ed.,

Ph.D., SSC Coordinator, Department of Mathematics for her inspirational

ideas and encouragement.

We are very thankful to our guide Ms. K.Ambika M.Sc., B.Ed., SET.,

Assistant Professor, Department of Mathematics (SSC) for her efficient and

effective guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16 09 2020

A STUDY ON CODING THEORY

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

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Submitted by

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N.SELVA JOTHI

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This is to certify that this project work entitled "A STUDY ON CODING ST.MARY'S submitted to COLLEGE (AUTONOMOUS), THEORY" is THOOTHUKUDI affiliate to Manonmaniam Sundaranar University, Tirunelveli in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students.

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REGISTER NUMBER

X.DHIVYA PRIYA

17SUMT06

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First of all, we thank the Almighty for showering his blessing to undergo this project.

We express our sincere gratitude and heartfelt thank to our Principal Rev. Dr. Sr. A.S.J. Lucia Rose M.SC., PGDCA., M.Phil., Ph.D., and to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for having kindly permitted us to do this project.

We express our gratitude to Dr. P. Anbarasi Rodrigo M.Sc., B.Ed., Ph.D., SSC Coordinator, the Department of Mathematics (SSC), for her inspirational ideas and encouragement.

We are very thankful to our guide Ms. I. Anbu Rajammal M.Sc., B.Ed., MPhil., SET., Assistant professor, Department of Mathematics (SSC) for her effective and efficient guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our efforts. We also wish to record our sincere thanks to our Parents, who gave us special attention to complete this work.

Finally we thank all those who extended their help regarding this project.

Place: Thoothukudi

Date: 16/09/2020

A STUDY ON MATCHINGS

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

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This is to certify that this project work entitled "A STUDY ON MATCHINGS" is submitted to ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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First of all, we thank the Almighty for showering his blessings to undergo

this project.

We express our sincere gratitude and heartfelt thanks to our Principal

Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and

to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly

permitted us to do this project.

We express our gratitude to Dr. P.Anbarasi Rodrigo M.Sc., B. Ed.,

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ideas and encouragement.

We are very thankful to our guide Ms. P. Suganya M.Sc., M.Phil.,

SET., Assistant Professor, Department of Mathematics (SSC) for her

efficient and effective guidance. She played a key role in the preparation

of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16 9 2020

A STUDY ON DECISION THEORY AND THEIR APPLICATION

Project work submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli.

in partial fulfilment of the requirement for the award of degree of

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This is to certify that this project work entitled "A STUDY ON DECISION THEORY AND THEIR APPLICATION" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar Univercity, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019 – 2020 by the following student:

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First of all, we thank the Almighty for showering his blessings to

undergo this project.

We express our sincere gratitude and heartfelt thanks to our

Principal Rev. Dr. Sr. A.S.J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and to

our Director Rev. Sr . F. Mary Joyce Baby M.A., M.Phil. for kindly permitted us to

do project.

We express our gratitude to Dr. P. Anbarasi Rodrigo M.Sc.,

B.Ed., Ph.D., SSC coordinator, Department of Mathematics for her inspirational ideas

and encouragement.

We are very thankful to our guide Ms. K. Ambika, M.Sc., B.Ed.,

SET., Department of Mathematics (SSC) for her efficient and effective guidance. She

played key role in the preparation of this project.

We also thank our staff members for their encouragement in all

our efforts. Finally, we thank all those who extended their help regarding this project.

Place: Thoothukudi

Date: 16. 09. 2020

A STUDY ON COMBINATORICS

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

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in partial fulfilment for the award of the degree of

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This is to certify that this project work entitled "A STUDY ON COMBINATORICS" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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K. KALAIVANI	17SUMT16
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Signature of the SSC Coordinator

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First of all, we thank the Almighty for showering his blessings to

undergo this project.

We express our sincere gratitude and heartfelt thanks to our

Principal Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil.,

Ph.D., and to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil.,

for kindly permitted us to do this project.

We express our gratitude to Dr. P. Anbarasi Rodrigo M.Sc.,

B.Ed., Ph.D., SSC Coordinator, Department of Mathematics for her

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We are very thankful to our guide Ms. A.FERDINA M.Sc.,

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for her efficient and effective guidance. She played a key role in the

preparation of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16/9/2020

A STUDY ON LATTICES

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

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REGISTER NUMBER

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This is to certify that this project work entitled "A STUDY ON LATTICES" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS),

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Tirunelveli, in partial fulfilment for the award of degree of Bachelor of

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Lucia Rose

First of all, we thank the Almighty for showering his blessings to undergo

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We express our sincere gratitude and heartfelt thanks to our Principal

Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and to our

Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly permitted us

to do this project.

We express our gratitude to Dr. P.Anbarasi Rodrigo M.Sc., B.Ed.,

Ph.D., SSC Coordinator, Department of Mathematics for her inspirational ideas

and encouragement.

We are very thankful to our guide Ms. J. Jenit Ajitha M.Sc., M.Phil.,

Assistant professor Department of Mathematics (SSC) for her efficient and

effective guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16.09.2020

A STUDY ON BASICS IN GAME THEORY

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

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BACHELOR OF SCIENCE IN MATHEMATICS

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NAME	REGISTER NUMBER
G. ABIRAMI	17SUMT48
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This is to certify that this project report entitled "A STUDY ON BASICS IN GAME THEORY" is submitted to ST. MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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Signature of the Guide

Signature of the SSC Coordinator

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St. Mary's College (Autonomous)
Thoothukudi - 628 001.

First of all, we thank the Almighty for showering his blessings to undergo this

project.

We express our sincere gratitude and heartfelt thanks to our Principal

Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and to our

Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly permitted us

to do this project.

We express our gratitude to Dr. P. Anbarasi Rodrigo M.Sc., B.Ed.,

Ph.D., SSC Coordinator, Department of Mathematics for her inspirational ideas

and encouragement.

We are very thankful to our guide Ms. A. Ferdina M.Sc., M.Phil., SET.,

Assistant professor Department of Mathematics (SSC) for her efficient and

effective guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16.09.2020

A STUDY ON FUZZY MATRIX

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

NAME	REGISTER NUMBER
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S. DHANA LAKSHMI	17SUMT55
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April-2020

This is to certify that this project report entitled "A STUDY ON FUZZY MATRIX" is submitted to St. Mary's College (Autonomous), Thoothukudi SUNDARANAR UNIVERSITY, to MANONMANIAM TIRUNELVELI, in partial fulfilment for the award of the degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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S. DHANA LAKSHMI	17SUMT55
J. JEYA HARINIE	17SUMT59
K. JOSEPHIN STELLA	17SUMT60

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Signature of the Director Director

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Signature of the Principal

Principal

St. Mary's College (Autonomous) Thoothukudi - 628 001.

First of all, we thank the Almighty for showering his blessings to undergo this project.

We express our sincere gratitude and heartfelt thanks to our Principal Rev. Dr. Sr. A. S. J. Lucia Rose M.Sc., PGDCA., M.Phil., Ph.D., and to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly permitted us to do this project.

We express our gratitude to Dr.P.Anbarasi Rodrigo M.Sc., B.Ed., Ph.D., SSC Coordinator, Department of Mathematics (SSC) for her inspirational ideas and encouragement.

We are very thankful to our guide Ms. I. AnbuRajammal, M.Sc., B.Ed., M.Phil., SET., Assistant Professor, Department of Mathematics (SSC) for her efficient and effective guidance. She played a key role in the preparation of this project.

We also thank our staff members for their encouragement in all our efforts. Finally, we thank all those who extended their help regarding this project.

Place: Thoothukudi

Date: 16. 9. 2020-

A STUDY ON BILINEAR FORMS

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

NAME	REGISTER NUMBER
S. BHAVANI DEVI	17SUMT54
J. JENEFA	17SUMT58
M. KIRUTHIKA	17SUMT64
M. MARI KARTHIKA	17SUMT66
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MS. P. SUGANYA M.Sc., M.Phil., SET.,



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This is to certify that this project work entitled "A STUDY ON BILINEAR FORMS" is submitted to ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

NAME	REGISTER NUMBER
S. BHAVANI DEVI	17SUMT54
J. JENEFA	17SUMT58
M. KIRUTHIKA	17SUMT64
M. MARI KARTHIKA	17SUMT66
M. MUTHUMARI	17SUMT73

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Signature of the SSC Coordinator

Signature of the Director
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Signature of the Principal

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First of all, we thank the Almighty for showering his blessings to undergo

this project.

We express our sincere gratitude and heartfelt thanks to our Principal

Rev. Dr. Sr. A. S. J. Lucia Rose M. Sc., PGDCA., M.Phil., Ph.D., and

to our Director Rev. Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly

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We express our gratitude to Dr. P.Anbarasi Rodrigo M.Sc., B. Ed.,

Ph.D., SSC Coordinator, Department of Mathematics for her inspirational

ideas and encouragement.

We are very thankful to our guide Ms. P. Suganya M.Sc., M.Phil.,

SET., Assistant Professor, Department of Mathematics (SSC) for her

efficient and effective guidance. She played a key role in the preparation

of this project.

We also thank our staff members for their encouragement in all our

efforts. Finally, we thank all those who extended their help regarding this

project.

Place: Thoothukudi

Date: 16.09.2020

A STUDY ON DIFFERENCE CORDIAL LABELING IN GRAPHS

A Project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli.

in partial fulfilment of the requirement for the award of the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

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W. MESITHA ESTHER	17SUMT70
R. NIVETHA	17SUMT75
R. RAMYA	17SUMT82
B. SANTHA LAKSHMI	17SUMT84

Under the guidance of

Ms. J. JENIT AJITHA M.Sc., M.Phil.



DEPARTMENT OF MATHEMATICS

St. Mary's College (Autonomous), Thoothukudi.

This is to certify that this project work entitled "A STUDY ON DIFFERENCE CORDIAL LABELING IN GRAPHS" is submitted to St.Mary's College (Autonomous), Thoothukudi affiliated to MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is a work done during the year 2019-2020 by the following students:

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Signature of the SSC Coordinator

Signature of the Director
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Signature of the Principal
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First of all we thank the Almighty for showering his blessing to undergo this

project.

We express our sincere gratitude and heartfelt thanks to our Principal

Rev.Dr. Sr. A.S.J. Lucia Rose M.Sc., PGDCA., M.Phil., Ph.D., and to our

Director Rev.Sr. F. Mary Joyce Baby M.A., M.Phil., for kindly permitted us to

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SSC Coordinator, Department of Mathematics for her inspirational ideas and

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Place: Thoothukudi

Date: 16. 09 . 2020

A STUDY ON ARITHMETICAL PROGRESSION AND CONGRUENCES

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

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and encouragement.

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Assistant Professor, Department of Mathematics (SSC) for her efficient and

effective guidance. She played a key role in the preparation of this project.

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Place: Thoothukudi

Date: 16. 09.200

A STUDY ON LUCKY EDGE LABELING OF GRAPHS

A project submitted to

ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI.

affiliated to

Manonmaniam Sundaranar University, Tirunelveli

in partial fulfilment for the award of the degree of

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This is to certify that this project work entitled "A STUDY ON LUCKY EDGE LABELING OF GRAPHS" is submitted to ST.MARY'S COLLEGE (AUTONOMOUS), THOOTHUKUDI affiliated to Manonmaniam Sundaranar University, Tirunelveli, in partial fulfilment for the award of the Degree of Bachelor of Science in Mathematics and is the work done during the year 2019-2020 by the following students:

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