

POLYNOMIAL RINGS

Dissertation submitted to

University of Calicut

in partial fulfilment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

ANAMIKA U K

(REG NO: CRAUSMT008)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA


MARCH 2023

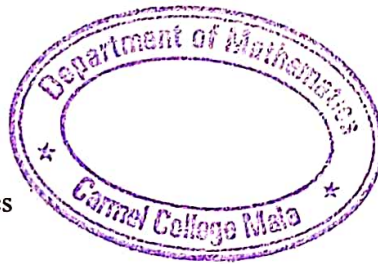
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CARMEL COLLEGE MALA
THRISSUR, 680732



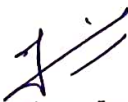
CERTIFICATE


This is to certify that this project entitled "POLYNOMIAL RINGS" "submitted by ANAMIKA U K (CRAUSMT008) in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020- 2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
Project Guide
Department of Mathematics




INTERNAL EXAMINER


Dr. Jismy Joseph
HOD
Department of Mathematics


EXTERNAL EXAMINER

JISMY M.J.
Assistant Professor
Department of Mathematics
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Pin - 680 722

Z-TRANSFORM

Dissertation submitted to

University of Calicut

in partial fulfillment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

ANGEL JOSEPH (CRAUSMT001)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

MARCH 2023

DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR, 680732



CERTIFICATE

This is to certify that this project entitled "Z-TRANSFORM" submitted by ANGEL JOSEPH in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

Dr. Jismy Joseph
Project Guide
Department of Mathematics



Dr. Jismy Joseph
Head of the Department
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INTERNAL EXAMINER

Dr. Jismy Joseph

EXTERNAL EXAMINER

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GRAPH LABELLING

Dissertation submitted to

University of Calicut

in partial fulfillment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

ANJIMA .K. JOJY (CRAUSMT009)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

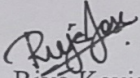
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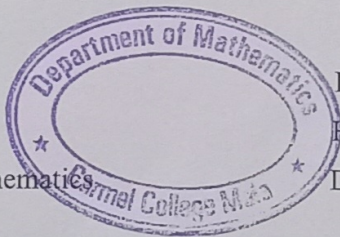
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THRISSUR,680732

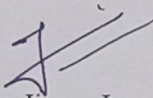



CERTIFICATE

This is to certify that this project entitled "GRAPH LABELLING" submitted by ANJIMA.K.JOY in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

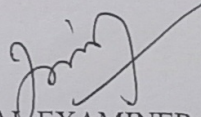

Ms. Riya Kevin
Project Guide.
Department of Mathematics




Dr. Jismy Joseph
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INTERNAL EXAMINER.

Dr. Jismy Joseph


EXTERNAL EXAMINER

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POLYNOMIAL RINGS

Dissertation submitted to

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in

MATHEMATICS

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ANNA JOY

(REG NO: CRAUSMT010)



DEPARTMENT OF MATHEMATICS

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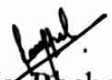
MARCH 2023

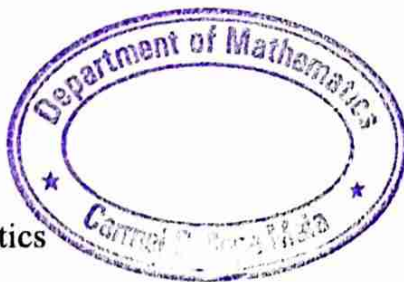
**DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR, 680732**





CERTIFICATE


This is to certify that this project entitled “**POLYNOMIAL RINGS** “submitted by **ANNA JOY(CRAUSMT010)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
Project Guide
Department of Mathematics




Dr. Jismy Joseph
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INTERNAL EXAMINER
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DOMINATION IN GRAPHS

Dissertation submitted to

University of Calicut

in partial fulfilment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

ARYA P S

(REG NO: CRAUSMT011)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA


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CARMEL COLLEGE MALA
THRISSUR, 680732

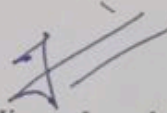


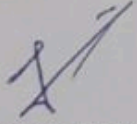
CERTIFICATE

This is to certify that this project entitled “DOMINATION IN GRAPHS” “submitted by ARYA P S (CRAUSMT011) in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2019-2023. This project report has not been submitted for any other degree elsewhere.

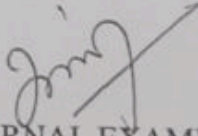

Ms. Rachel Paul
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Dr. Jismy Joseph
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INTERNAL EXAMINER

Dr. Jismy Joseph


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CODING THEORY

Dissertation submitted to

University of Calicut

in partial fulfillment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

C R ASWATHY(CRAUSMT002)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

MARCH 2023

DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR,680732



CERTIFICATE

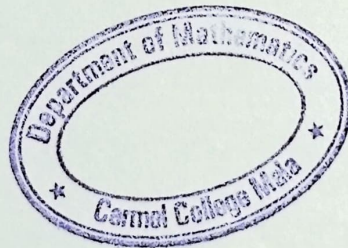
This is to certify that this project entitled "CODING THEORY" submitted by C R ASWATHY in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a diagonal stroke.

Dr. Jismy Joseph
Project Guide
Department of Mathematics

A handwritten signature in blue ink, identical to the one on the left, consisting of a stylized 'J' followed by a horizontal line and a diagonal stroke.

Dr. Jismy Joseph
Head of the Department
Department of Mathematics



INTERNAL EXAMINER

A handwritten signature in blue ink, reading "Jismy Joseph" in a cursive style.

EXTERNAL EXAMINER

A handwritten signature in blue ink, reading "Jismy M.J." in a cursive style.

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DOMINATION IN GRAPHS

Dissertation submitted to

University of Calicut

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BACHELOR OF DEGREE

in

MATHEMATICS

by

DELNA PAULY

(REG NO: CRAUSMT012)



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CARMEL COLLEGE MALA


MARCH 2023

DEPARTMENT OF MATHEMATICS
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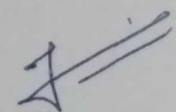


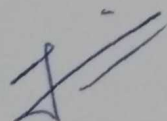
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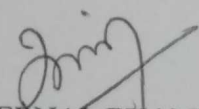
This is to certify that this project entitled “**DOMINATION IN GRAPHS**” submitted by **DELNA PAULY(CRAUSMT012)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020- 2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
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GRAPH LABELLING

Dissertation submitted to

University of Calicut

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BACHELOR OF DEGREE

in

MATHEMATICS

by

DEVIKA P.D (CRAUSMT003)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

MARCH 2023

DEPARTMENT OF MATHEMATICS

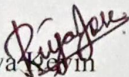
CARMEL COLLEGE MALA

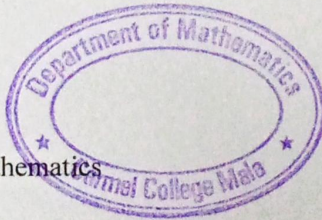
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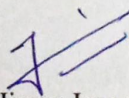


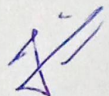
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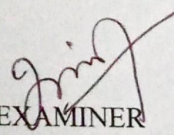
This is to certify that this project entitled "GRAPH LABELLING" submitted by DEVIKA P. D in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Ms. Riya
Project Guide.
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Dr. Jismy Joseph
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INTERNAL EXAMINER.


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POLYNOMIAL RINGS

Dissertation submitted to

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BACHELOR OF DEGREE

in

MATHEMATICS

by

DIVYA DAVIS

(REG NO: CRAUSMT013)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA


MARCH 2023

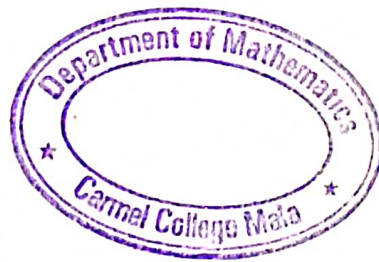
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CARMEL COLLEGE MALA
THRISSUR, 680732**




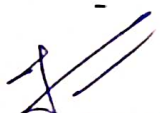
CERTIFICATE


This is to certify that this project entitled "POLYNOMIAL RINGS" submitted by **DIVYA DAVIS(CRAUSMT013)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
Project Guide
Department of Mathematics




Dr. Jismy Joseph
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Department of Mathematics


INTERNAL EXAMINER
Dr. Jismy Joseph


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Pin - 680 722

Z-TRANSFORM

Dissertation submitted to

University of Calicut

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BACHELOR OF DEGREE

in

MATHEMATICS

by

JOPSY JOY(CRAUSMT014)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

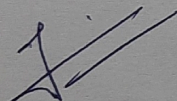
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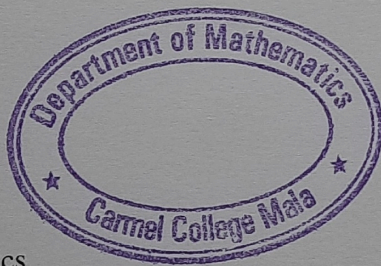
DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
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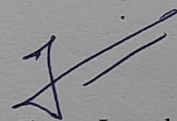


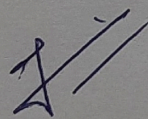
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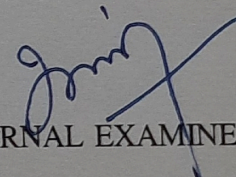
This is to certify that this project entitled "Z-TRANSFORM" submitted by **JOPSY JOY** in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Dr. Jismy Joseph
Project Guide
Department of Mathematics




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INTERNAL EXAMINER


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CODING THEORY

Dissertation submitted to

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BACHELOR OF DEGREE

in

MATHEMATICS

by

KEERTHANA K V

(CRAUSMT015)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

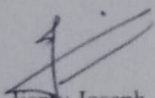
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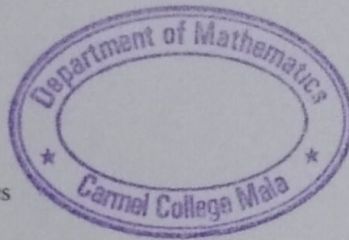
DEPARTMENT OF MATHEMATICS
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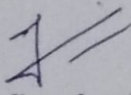


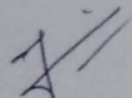
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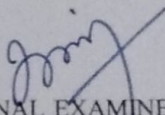
This is to certify that this project entitled "CODING THEORY" submitted by KEERTHANA K V in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Dr. Jismy Joseph
Project Guide
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Dr. Jismy Joseph
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INTERNAL EXAMINER


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POLYNOMIAL RINGS

Dissertation submitted to

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MATHEMATICS

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KRISHNA HARIDAS

(REG NO: CRAUSMT016)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA


MARCH 2023

DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR, 680732





CERTIFICATE

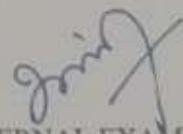
This is to certify that this project entitled "POLYNOMIAL RINGS" submitted by **KRIHSNA HARIDAS (CRAUSMT016)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
Project Guide
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INTERNAL EXAMINER


Dr. Jismy Joseph
HOD
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Z-TRANSFORM

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MATHEMATICS

by

LAVITHA ROSE SHAJI (CRAUSMT004)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

MARCH 2023

DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR,680732



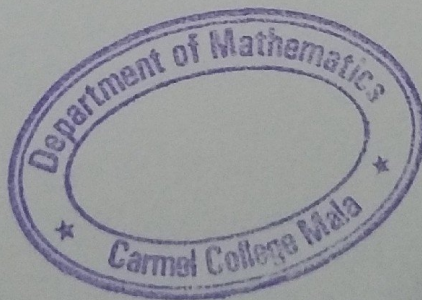
CERTIFICATE

This is to certify that this project entitled “Z-TRANSFORM” submitted by **LAVITHA ROSE SHAJI** in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

Dr. Jismy Joseph

Project Guide

Department of Mathematics



Dr. Jismy Joseph

Head of the Department

Department of Mathematics

INTERNAL EXAMINER

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DOMINATION IN GRAPHS

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in

MATHEMATICS

by

M S SREYA

(REG NO: CRAUSMT018)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA


MARCH 2023

DEPARTMENT OF MATHEMATICS
CARMEL COLLEGE MALA
THRISSUR, 680732

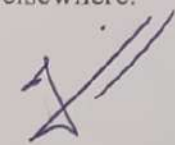



CERTIFICATE

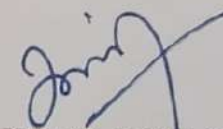
This is to certify that this project entitled "**DOMINATION IN GRAPHS**" submitted by **M S SREYA(CRAUSMT018)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


Ms. Rachel Paul
Project Guide
Department of Mathematics




Dr. Jismy Joseph
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INTERNAL EXAMINER


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GRAPH LABELLING

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University of Calicut

in partial fulfillment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

MANSEERA.K.U(CRAUSMT017)



DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA

MARCH 2023


DEPARTMENT OF MATHEMATICS

CARMEL COLLEGE MALA




CERTIFICATE

This is to certify that this project entitled “GRAPH LABELLING” submitted by MANSEERA.K.U in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

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CODING THEORY

Dissertation submitted to

University of Calicut

in partial fulfillment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

NANDANA V M (CRAUSMT019)



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MARCH 2023

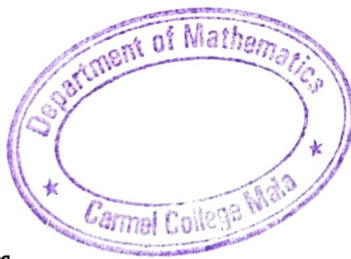
DEPARTMENT OF MATHEMATICS
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This is to certify that this project entitled "CODING THEORY" submitted by **NANDANA V M** in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

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CODING THEORY

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This is to certify that this project entitled "CODING THEORY" submitted by NANDHANA K R in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

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GRAPH LABELLING

Dissertation submitted to

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BACHELOR OF DEGREE

in

MATHEMATICS

by

**SHAMINI SHAJU
(CRAUSMT020)**



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CARMEL COLLEGE MALA

MARCH 2023

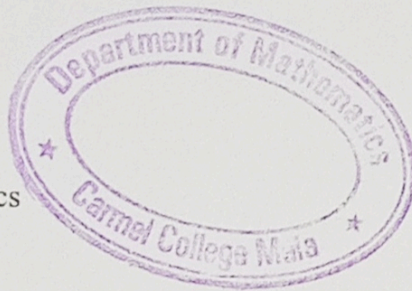
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CARMEL COLLEGE MALA
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CERTIFICATE

This is to certify that this project entitled "GRAPH LABELLING" submitted by **SHAMINI SHAJU** in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

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Z-TRANSFORM

Dissertation submitted to

University of Calicut

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in

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by

SHELSHA VASU (CRAUSMT006)



DEPARTMENT OF MATHEMATICS

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MARCH 2023

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This is to certify that this project entitled "**Z-TRANSFORM**" submitted by **SHELSHA VASU** in partial fulfillment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bona-fide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a diagonal stroke.

Dr. Jismy Joseph
Project Guide
Department of Mathematics



A handwritten signature in blue ink, identical to the one on the left.

Dr. Jismy Joseph
Head of the Department
Department of Mathematics

A handwritten signature in blue ink, consisting of a stylized 'X' followed by a horizontal line and a diagonal stroke.

INTERNAL EXAMINER

A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a diagonal stroke.

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GRAPH LABELLING

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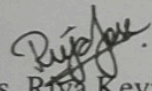
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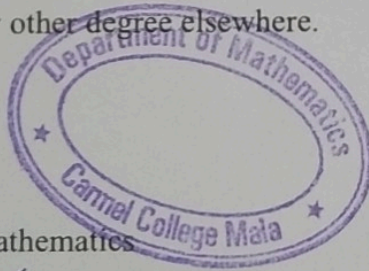
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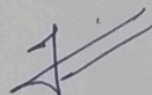


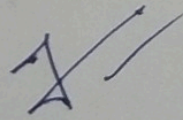
CERTIFICATE

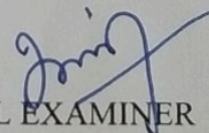
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DOMINATION IN GRAPHS

Dissertation submitted to

University of Calicut

in partial fulfilment of the requirements for the award of

BACHELOR OF DEGREE

in

MATHEMATICS

by

VIDHYA M V

(REG NO: CRAUSMT007)



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MARCH 2023

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This is to certify that this project entitled “**DOMINATION IN GRAPHS**” submitted by **VIDHYA M V (CRAUSMT007)** in partial fulfilment of the requirements for the B.Sc. Degree in Mathematics to the Calicut University is a bonafide record of the studies undertaken by them under my supervision at the Department of Mathematics, Carmel College, Mala during 2020-2023. This project report has not been submitted for any other degree elsewhere.


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