MATHEMATICS AND MUSIC

A dissertation submitted to

Mahatma Gandhi University

In partial fulfilment of the requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by:

DIYA RAJAN   Reg.No.190021034944

ESSA RAINCY   Reg.No. 190021034945

JOSNA JOSE   Reg.No. 190021034947

UNDER THE GUIDANCE OF

Sr. SONIA K THOMAS

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

MARCH 2022

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

ARUNAPURAM

CERTIFICATE

I do hereby certify that the dissertation entitled **"MATHEMATICS AND MUSIC"** is a bonafide record of work done by DIYA RAJAN, ESSA RAINCY, JOSNA JOSE under my supervision in partial fulfilment of the requirements for the degree (CBCS) of Bachelor of Science in Mathematics of M.G University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31/03/2022

Sr. Sonia K Thomas

(Supervising Guide)

Forwarded: Sr. Sonia K Thomas

Head of the Department

BILINEAR TRANSFORMATION

A dissertation submitted to

Mahatma Gandhi University

in partial fulfillments of the requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by :

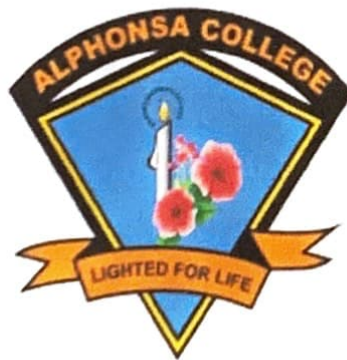|	
DEVIKA BABU	190021034964
DEVIKA M NAIR	190021034965
DILI MARIYA MAICHAL	190021034966

UNDER THE GUIDANCE OF

DR. Sr. SHEENA MATHEW

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

ARUNAPURAM

MARCH 2022

CERTIFICATE

I do hereby certify that dissertation entitled "BILINEAR TRANSFORMATION" is a bonafide record of work done by DEVIKA BABU , DEVIKA M NAIR, DILI MARIYA MAICHAL , under my supervision in partial fulfillments of the requirements for the degree [CBCS] of bachelor of science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.
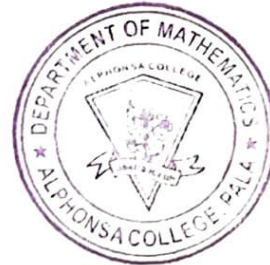
Place : Arunapuram

Date : 31·03·2022

DR. Sr. SHEENA MATHEW

[Supervising Guide]

Forwarded : Dr. Sr. Sonia K Thomas

Head of the Department

GEODESIC MATH

A dissertation submitted to

Mahatma Gandhi University

In partial fulfillment of the requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by:

MANYA MANOJ	190021034967
MARIA THOMAS	190021034968
MINNU LISBATH SEBASTIAN	190021034969

UNDER THE GUIDANCE OF

DR.Sr.SHEENA MATHEW

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

MARCH 2022

CERTIFICATE

I do hereby certify that dissertation entitled **"GEODESIC MATH"** is a bonafide record of work done by MANYA MANOJ, MARIA THOMAS, MINNU LISBATH SEBASTIAN, under my supervision in partial fulfillment of the requirements for the degree [CBCS] of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.
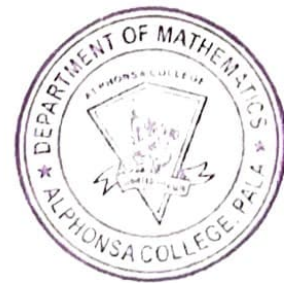
Place: Arunapuram

Dr.Sr.Sheena Mathew

Date: 31·03·2022

[Supervising Guide]

Forwarded: Dr.Sr.Sonia K Thomas

Head of the Department

FUZZY SETS AND DECISION MAKING IN A FUZZY ENVIRONMENT

A dissertation submitted to

Mahatma Gandhi University

in partial fulfillment of the requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by:

MULLASSERI ASHMY MANOJ	190021034970
NAVIYA SANTHOSH	**190021034971**
NOEL MARIYA GEORGEY	190021034972

UNDER THE GUIDANCE OF

Dr. Sr. SHEENA MATHEW

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE, PALA

MARCH 2022

CERTIFICATE

This is to certify that the dissertation entitled **"FUZZY SETS AND DECISION MAKING IN A FUZZY ENVIRONMENT"** is a bonafide record of work done by **MULLASSERI ASHMY MANOJ, NAVIYA SANTHOSH, NOEL MARIYA GEORGEY** under my supervision in partial fulfillment of the requirement for the Degree [CBCS] of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31.03.2022

Dr. Sr. Sheena Mathew

[supervising guide]

Forwarded: Dr. Sr. Soma K Thomas

Head of the Department

APPLICATIONS OF MATHEMATICS IN BIOLOGY

A Dissertation Submitted to

Mahatma Gandhi University in partial fulfillment of the

requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by :-

Reg. No. 190021034941 Devika Haridas

Reg. No. 190021034942 Diliya Elizebath Denny

Reg. No. 190021034943 Diya Anna Reji

UNDER THE GUIDANCE OF

MRS. ANN MARIA THANKACHAN

CBCSS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE, PALA

MARCH 2022

CERTIFICATE

This is to certify that the dissertation entitled 'Applications of Mathematics in Biology' is a bonafide record of work done by Devika Haridas, Diliya Elizebath, Diya Anna Reji under my supervision in partial fulfillment of the requirement for the Degree of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.

Place : Arunapuram

Date : 31·03· 2022

Mrs. Ann Maria Thankachan
(supervising guide)

Forwarded :

Dr. Sr. Sonia K Thomas
Head of the Department

CHAOS THEORY

A dissertation submitted to

Mahatma Gandhi University

in partial fulfillment of requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by:

ROSEMARY S	Reg.No.190021034973
AKSHARA BABU	Reg.No.190021034931
ALBY JOSEPH	Reg.No.190021034932

UNDER THE GUIDENCE OF

Ms. ANN MARIA THANKACHAN

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

MARCH 2022

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

ARUNAPURAM

CERTIFICATE

I do hereby certify that the dissertation entitled **"CHAOS THEORY"** is a bonafide record of work done by ROSEMARY S , AKSHARA BABU , ALBY JOSEPH under supervision in partial fulfillment of the requirement for the degree (CBCS) of Bachelor of Science in Mathematics of M . G. University and that no part of this work has been submitted for the award of any degree.

Place : Arunapuram

Ms. Ann Maria Thankachan

Date: 31-03-2022

(Supervising Guide)

Forwarded : Dr. Sr. Sonia K Thomas

Head of the Department

TRAFFIC FLOW MODELLING

A dissertation submitted to

Mahatma Gandhi University in partial fulfillment of

the requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by,

ALEENA BENNY	190021034933
ANN MARIYA SUNNY	190021034935
ANNE MARIA S	190021034936

UNDER THE GUIDANCE OF

MS.ANN MARIA THANKACHAN

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE ,PALA

MARCH 2022

CERTIFICATE

I hereby certify that , the dissertation entitled 'Traffic Flow Modelling' is a bonafide record of work done by Aleena Benny, Ann Mariya Sunny and Anne Maria S ,under my supervision in partial fulfillment of the requirement for the Degree Of Bachelor of Science in Mathematics of M.G University and that no part of this work has been submitted earlier for the award of any degree.

PLACE : Pala

Date   : 31 – 03 – 22

Ms.Ann Maria Thankachan

(Supervising Guide)

Forwarded:

Dr.Sr Sonia K Thomas
Head of the Department

WIENER INDEX: DEVELOPMENT AND APPLICATIONS

A dissertation submitted to

Mahatma Gandhi University

in partial fulfilment of the requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted By

ANUPA SAJAN	**Reg.no. 190021034937**
ASWATHY SUNIL	**Reg.no. 190021034939**
CHRISTY M	**Reg.no. 190021034940**

UNDER THE GUIDANCE OF

Ms. ANN MARIA THANKACHAN

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

MARCH 2022

CERTIFICATE

I do hereby certify that the dissertation entitled **"WIENER INDEX: DEVELOPMENT AND APPLICATIONS"** is a bonafide record of work done by **ANUPA SAJAN, ASWATHY SUNIL, CHRISTY M,** under my supervision in partial fulfilment of the requirement for the degree (CBCS) of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31/09/2022

Ms. Ann Maria Thankachan

(Supervising Guide)

Forwarded: Dr.Sr. Sonia K Thomas

Head of the Department

FOURIER SERIES

A dissertation submitted to

Mahatma Gandhi University in partial fulfillment of
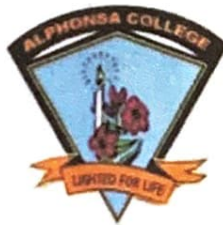
the requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by,

ADITHYA NANDAKUMAR	190021034958
ALJA GIFTY T	190021034959
ANAGHA S MADHU	190021034960

UNDER THE GUIDANCE OF

Dr. Sr. SHEENA MATHEW

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE ,PALA

MARCH 2022

CERTIFICATE

I hereby certify that, the dissertation entitled "Fourier Series" is a bonafide record of work done by Adithya Nandakumar, Alja Gifty T. and Anagha S. Madhu under my supervision in partial fulfillment of the requirement for the Degree Of Bachelor of Science in Mathematics of M.G University and that no part of this work has been submitted earlier for the award of any degree.

PLACE : Pala

Date   : 31·03·2022

Dr.Sr.Sheena Mathew

(Supervising Guide)

Forwarded:

Dr.Sr Sonia K Thomas

Head of the Department

CATALAN NUMBERS

A dissertation submitted to Mahatma Gandhi University

in partial fulfilment of the requirement for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by:

ANN MARIA SUNNY	190021304961
ANUPAMA MOHAN	190021034962
ASWATHY MANOHARAN	190021034963

UNDER THE GUIDANCE OF

DR. Sr. SHEENA MATHEW

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS

ALPHONSA COLLEGE PALA

MARCH 2022

CERTIFICATE

I do hereby certify that dissertation entitled **"CATALAN NUMBERS"** is a bonafide record of work done by ANN MARIA SUNNY, ANUPAMA MOHAN, ASWATHY MANOHARAN, under my supervision in partial fulfilment of the requirements for the degree [CBCS] of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31·03·2022

Dr. Sr. SHEENA MATHEW

[SUPERVISING GUIDE]

Forwarded: Dr. Sr. Sonia K Thomas

Head of the Department

MATHEMATICS AND SPORTS

A dissertation submitted to

Mahatma Gandhi University

in partial fulfilments of requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

SONA RAJESH   190021034954

TEENA JOSE   190021034955

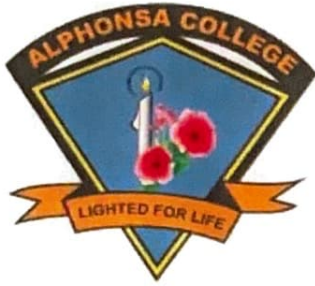TESSA JOSHY   190021034956

VISHNUPRIYA VELMURUGAN   190021034957

UNDER THE GUIDANCE OF

Dr.Sr.SONIA K THOMAS

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS ,

ALPHONSA COLLEGE , PALA

MARCH 2022

CERTIFICATE

I do hereby certify that the dissertation entitled **"MATHEMATICS AND SPORTS"** is a bonafide record of work done by **SONA RAJESH, TEENA JOSE, TESSA JOSHY, VISHNUPRIYA VELMURUGAN** , under my supervision in partial fulfilment of the requirements for the degree[CBCS] of Bachelor of Science in Mathematics of M.G.University and that no part of this work has been submitted earlier for the award of any degree.
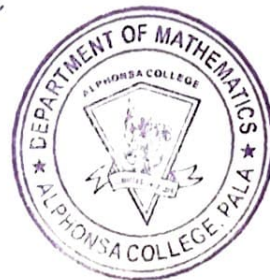
Place:Arunapuram

Date: 31·03·2022

Dr.Sr.Sonia K Thomas

(Supervising Guide)

Forwarded:

Dr.Sr.Sonia K Thomas
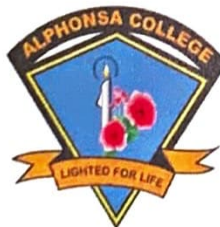
Head of the department

INFINITY

A dissertation submitted to Mahatma Gandhi University
in partial fulfilments of the requirements for the degree of
BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

JOSNA JOSE	**190021034946**
NEENATT MARY JOGI	**190021034949**
NEETHU THANKACHAN	**190021034950**

Under the guidance of

Dr.Sr.SONIA K THOMAS

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS,

ALPHONSA COLLEGE, PALA

MARCH 2022

CERTIFICATE

I do hereby certify that dissertation entitled **"INFINITY"** is a bonafide record of work done by JOSNA JOSE, NEENATT MARY JOGI, NEETHU THANKACHAN under my supervision in partial fulfilment of the requirements for the degree [CBCS] of Bachelor of Science in Mathematics of M.G. University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31.03.2022

Dr.Sr.Sonia K Thomas

[Supervising Guide]

Forwarded: Dr.Sr.Sonia K Thomas

Head of the Department

SYMMETRY

A dissertation submitted to Mahatma Gandhi University

in partial fulfilments of the requirements for the degree of

BACHELOR OF SCIENCE IN MATHEMATICS

Submitted by

ROSY SANTO	**190021034951**
SETHU PRAKASH	**190021034952**
SHREYA SURESH	**190021034953**

Under the guidance of

Dr. Sr. SONIA K THOMAS

CBCS SEMESTER VI

DEPARTMENT OF MATHEMATICS,

ALPHONSA COLLEGE, PALA

MARCH 2022

CERTIFICATE

I do hereby certify that the dissertation entitled **"SYMMETRY"** is a bonafide record of work done by Rosy Santo, Sethu Prakash, Shreya Suresh under my supervision in partial fulfilment of the requirements for the degree [CBCS] of Bachelor of Science in Mathematics of M.G University and that no part of this work has been submitted earlier for the award of any degree.

Place: Arunapuram

Date: 31·03·2022

Dr. Sr. Sonia K Thomas

[Supervising Guide]

Forwarded: Dr. Sr. Sonia K Thomas

Head of the Department