

FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Adhith NJ (CCAVSMT057)



Department of Mathematics (Unaided)

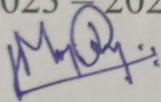
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

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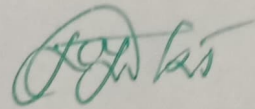
Ms. Mary Pauly K

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda.



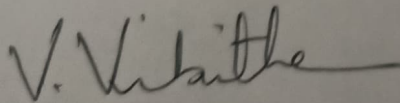
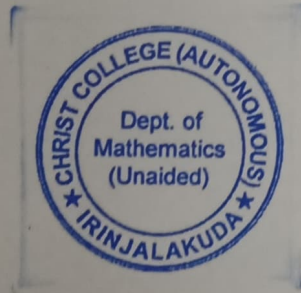
Dr. Joju K T

Coordinator

Dept. of Mathematics(Unaided)

Christ College(Autonomous),

Irinjalakuda.



External Examiner:

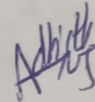
Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION" submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Adhith NJ (CCAVSMT057)

Place: Irinjalakuda

Date: 25/04/2024

FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Gayathri A (CCA VSMT064)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Gayathri A (CCA VSMT064) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



Ms. Mary Pauly K

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda.



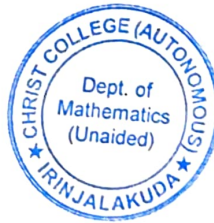
Dr. Joju K T

Coordinator

Dept. of Mathematics(Unaided)

Christ College(Autonomous),

Irinjalakuda.



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnambalam - 686 642

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Gayathri A (CCAVSMT064)

Place: Irinjalakuda

Date: 25/04/2024

FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Vivek Viswam(CCAVSMT067)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the entitled "FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Vivek Viswam (CCA VSMT064) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



Ms. Mary Pauly K

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda.




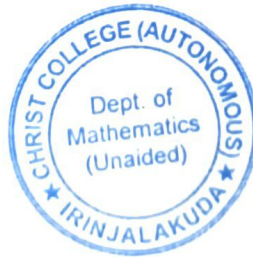
Dr. Joju K T

Coordinator

Dept. of Mathematics(Unaided)

Christ College(Autonomous),

Irinjalakuda.



External Examiner:

Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

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Vivek Viswam (CCAVSMT067)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

I wish to acknowledge my indebtedness to a number of colleagues who made valuable efforts and suggestions for the content of this project. There are many individuals who have come together to make this project a reality. I greatly appreciate the inspiration, support and guidance of all those people who have been instrumental in making this project a success.

I express my deepest thanks to my guide Ms. Mary Pauly k, Adhoc Lecturer, Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda, who guided me faithfully through this entire project. I have learned so much from her both in the subject and otherwise. Without her advice, support and guidance, it finds difficult to complete this work.

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Words cannot express the love and support we have received from myparents, whose encouragement has buoyed me up from the beginning till the end of this work.


Vivek Viswam (CCAVSMT067)

FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Aswini KS (CCAVSMT052)



Department of Mathematics (Unaided)

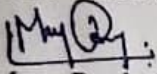
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

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Ms. Mary Pauly K

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda.



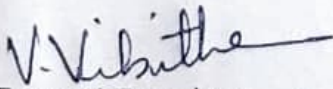
Dr. Joju K T

Coordinator

Dept. of Mathematics(Unaided)

Christ College(Autonomous),

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External Examiner:

Place: Irinjalakuda

Date: 25/04/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnankulam - 680 642

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Aswini KS (CCA VSMT052)

DECLARATION

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Aswini KS (CCAVSMT052)

Place: Irinjalakuda

Date: 25/04/2024

FRACTAL GEOMETRY AND ITS APPLICATIONS

Project report submitted to Christ College (autonomous) in partial fulfillment of the requirement for the award of the B. Sc. Degree Programme in mathematics.

By

Ashitha M M (CCAVSMT051)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Ashitha M M (CCAVSMT051), during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023– 2024.

Dr. Joju K T

Associate Professor

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

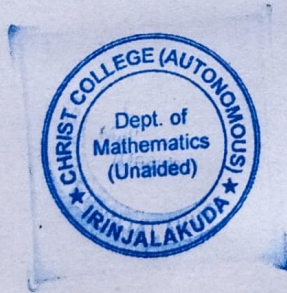
Dr. Joju K T

Coordinator

Dept. of Mathematics (Unaided)

Christ College (Autonomous),

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External Examiner:

Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

I hereby declare that the project work entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B,Sc Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Ashitha M M (CCAVSMT051)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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Ashitha M M (CCAVSMT051)

FRACTAL GEOMETRY AND ITS APPLICATIONS

Project report submitted to Christ College (autonomous) in partial fulfillment of the requirement for the award of the B. Sc. Degree Programme in mathematics.

By

Chandandev AS (CCAVSMT062)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Chandandev AS (CCA VSMT062), during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023– 2024.

Dr. Joju K T

Associate Professor

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

Dr. Joju K T

Coordinator

Dept. of Mathematics (Unaided)

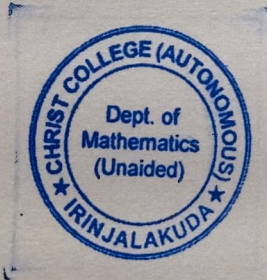
Christ College (Autonomous),

Irinjalakuda

External Examiner:

Place: Irinjalakuda

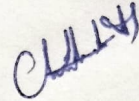
Date: 25/03/2024



Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

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Chandandev AS (CCA VSMT062)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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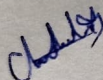
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Chandandev AS (CCAVSMT062)

FRACTAL GEOMETRY AND ITS APPLICATIONS

Project report submitted to Christ College (autonomous) in partial fulfillment of the requirement for the award of the B. Sc. Degree Programme in mathematics.

By

Arjun Krishna K (CCA VSMT050)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

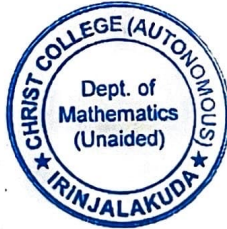
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Dr. Joju K T
Associate Professor
Dept. Of Mathematics (Unaided)
Christ College (Autonomous),
Irinjalakuda



Dr. Joju K T
Coordinator
Dept. of Mathematics (Unaided)
Christ College (Autonomous),
Irinjalakuda



External Examiner:


Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnankulam -680 542

DECLARATION

I hereby declare that the project work entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B,Sc Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Arjun Krishna K (CCA VSMT050)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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Arjun Krishna K (CCAVSMT050)

FRACTAL GEOMETRY AND ITS APPLICATIONS

Project report submitted to Christ College (autonomous) in partial fulfillment of the requirement for the award of the B. Sc. Degree Programme in mathematics.

By

Angel Ros Biju (CCAVSMT055)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Angel Ros Biju (CCAVSMT055) , during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023– 2024.

Dr. Joju K T

Associate Professor

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

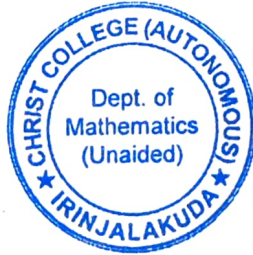
Dr. Joju K T

Coordinator

Dept. of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

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Angel Ros Biju (CCAVSMT055)

Place: Irinjalakuda

Date: 25/03/2024

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Angel Ros Biju (CCA VSMT055)



CRYPTOGRAPHY USING MATRICES

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Aans Antu (CCAVSMT056)



Department of Mathematics (Unaided)

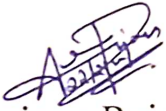
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "CRYPTOGRAPHY USING MATRICES" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Aans Antu (CCAVSMT056) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



Ms. Anjana Rajan

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



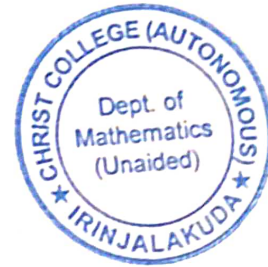
Dr. Joju K T

Coordinator

Dept of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnathulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Aans Antu (CCAVSMT056)

Place: Irinjalakuda

Date: 25/04/2024

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Aans Antu (CCAVSMT056)

CRYPTOGRAPHY USING MATRICES

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Gourinandana A (CCAVSMT053)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "CRYPTOGRAPHY USING MATRICES" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Gourinandana A (CCAVSMT053) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



Ms. Anjana Rajan

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda




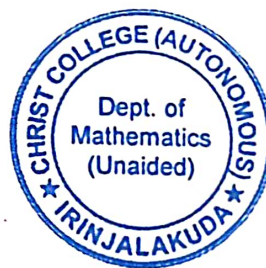
Dr. Joju K T

Coordinator

Dept of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner

Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

I hereby declare that the project work entitled "CRYPTOGRAPHY USING MATRICES" Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Gourinandana A (CCAVSMT053)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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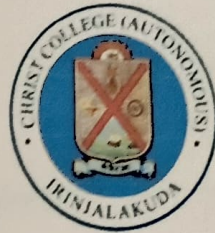

Gourinandana A (CCAVSMT053)

CRYPTOGRAPHY USING MATRICES

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Athul C J (CCAVSMT061)



Department of Mathematics (Unaided)

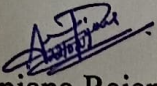
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "CRYPTOGRAPHY USING MATRICES" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Athul C J (CCA VSMT061) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



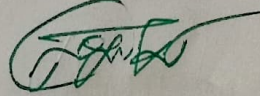
Ms. Anjana Rajan

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



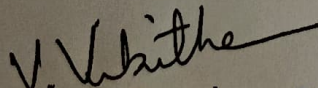
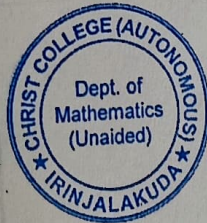
Dr. Joju K T

Coordinator

Dept of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner


Place: Irinjalakuda

Date: 25/03/2024

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam - 680 542

DECLARATION

I hereby declare that the project work entitled "CRYPTOGRAPHY USING MATRICES" Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Athul C J (CCAVSMT061)

Place: Irinjalakuda

Date: 25/04/2024

CRYPTOGRAPHY USING MATRICES

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Aswathy K S (CCAVSMT060)



Department of Mathematics (Unaided)

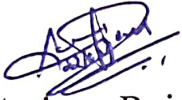
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "CRYPTOGRAPHY USING MATRICES" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Aswathy K S (CCAVSMT060) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.



Ms. Anjana Rajan

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



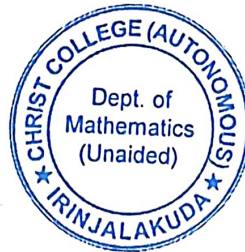
Dr. Joju K T

Coordinator

Dept of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner


Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Aswathy K S (CCA VSMT060)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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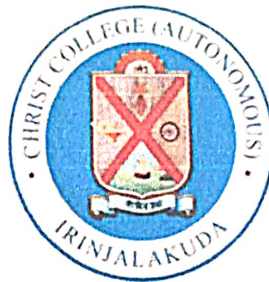
Aswathy K S (CCAVSMT060)

CRYPTOGRAPHY USING MATRICES

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Sajwel K U (CCAVSMT066)



Department of Mathematics (Unaided)

Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "CRYPTOGRAPHY USING MATRICES" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Sajwel K U (CCAVSMT066) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 – 2024.

Ms. Anjana Rajan

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

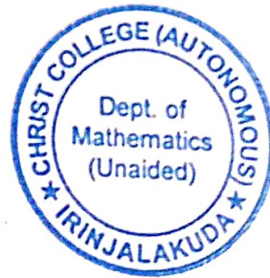
Dr. Joju K T

Coordinator

Dept of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "CRYPTOGRAPHY USING MATRICES" Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.

Sajwel K U (CCAVSMT066)



Place: Irinjalakuda

Date: 25/07/2024

ACKNOWLEDGEMENT

I wish to acknowledge my indebtedness to a number of colleagues who made valuable efforts and suggestions for the content of this project. There are many individuals who have come together to make this project a reality. I greatly appreciate the inspiration, support and guidance of all those people who have been instrumental in making this project a success.

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Sajwel K U (CCA VSMT066)



GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Fabiya Sherin K (CCAVSMT068)



DEPARTMENT OF MATHEMATICS (UNAIDED)

CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

This is to certify that the project entitled "**Graph Coloring**" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics, is a bonafide record of original research work done by Fabiya Sherin K (CCAVSMT068) during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023-2024.

Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

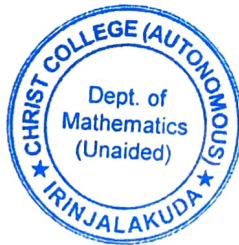
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Razhani
30 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "Graph Coloring" submitted to the Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Fabiya Sherin K (CCAVSMT068)

Place: Irinjalakuda

Date: 25/03/2024

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Fabiya Sherin K (CCA VSMT068)

GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Aneeta Augustin (CCAVSMT058)



DEPARTMENT OF MATHEMATICS (UNAIDED)

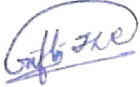
CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

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Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



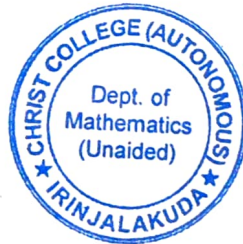
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

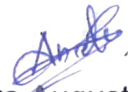
Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Aneeta Augustin (CCAVSMT058)

Place: Irinjalakuda

Date: 25/03/2024

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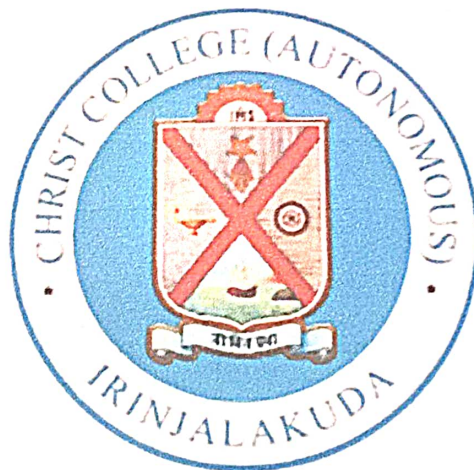
Aneeta Augustin (CCAVSMT058)

GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Anlin Robert (CCAVSMT059)



DEPARTMENT OF MATHEMATICS (UNAIDED)

CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

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Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

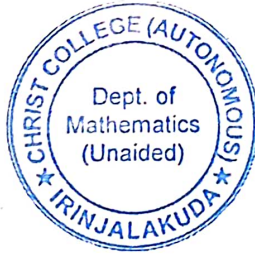
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnathukulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "Graph Coloring" submitted to the Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Anlin Robert (CCAVSMT059)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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Anlin Robert (CCAVSMT059)

GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Sivendu S Manoj (CCAVSMT054)



DEPARTMENT OF MATHEMATICS (UNAIDED)

CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

This is to certify that the project entitled “**Graph Coloring**” submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics, is a bonafide record of original research work done by Sivendu S Manoj (CCAVSMT054) during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023-2024.



Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



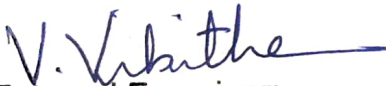
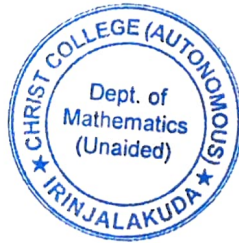
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Sivendu S Manoj (CCAVSMT054)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

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Sivendu S Manoj (CCAVSMT054)

GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Manav Syam K D (CCAVSMT065)



DEPARTMENT OF MATHEMATICS (UNAIDED)

CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

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Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

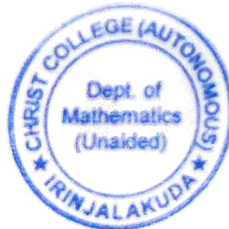
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "Graph Coloring" submitted to the Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Manav Syam K D (CCAVSMT065)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

I wish to acknowledge my indebtedness to a number of colleagues who made valuable efforts and suggestions for the content of this project. There are many individuals who have come together to make this project a reality. I greatly appreciate the inspiration, support and guidance of all those people who have been instrumental in making this project a success.

I express my deepest thanks to my guide Ms. Gifty Thomas, Adhoc Lecturer, Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda, who guided me faithfully through this entire project. I have learned so much from her both in the subject and otherwise. Without her advice, support and guidance, it would have been difficult to complete this work.

I take this opportunity to express my thanks to our beloved principal Father Dr. Jolly Andrews CMI, who gave me the golden opportunity to do this wonderful project on the topic "Graph Coloring".

I mark my word of gratitude to Dr. Joju K T, Coordinator and all other teachers of my department for providing me with the necessary facilities to complete this project on time.

I want to especially thank all the faculty of the library for providing various facilities for this project.

Words cannot express the love and support I have received from my parents, whose encouragement has buoyed me up from the beginning till the end of this work.



Manav Syam K D (CCAVSMT065)

GRAPH COLORING

Project report submitted to Christ College (Autonomous) in partial fulfillment of requirement for the award of the B.Sc. Degree Programme in Mathematics

By

Anagha Unnikrishnan (CCAVSMT049)



DEPARTMENT OF MATHEMATICS (UNAIDED)

CHRIST COLLEGE (AUTONOMOUS)

IRINJALAKUDA

2024

CERTIFICATE

This is to certify that the project entitled "**Graph Coloring**" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics, is a bonafide record of original research work done by Anagha Unnikrishnan (CCAVSMT049) during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023-2024.

Ms. Gifty Thomas

Adhoc Lecturer

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda

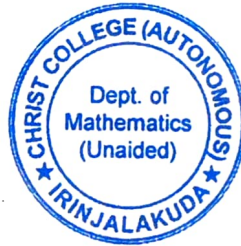
Dr. Joju K T

Coordinator

Department of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

I hereby declare that the project work entitled "Graph Coloring" submitted to the Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Anagha Unnikrishnan (CCAVSMT049)

Place: Irinjalakuda

Date: 25/03/2024

ACKNOWLEDGEMENT

I wish to acknowledge my indebtedness to a number of colleagues who made valuable efforts and suggestions for the content of this project. There are many individuals who have come together to make this project a reality. I greatly appreciate the inspiration, support and guidance of all those people who have been instrumental in making this project a success.

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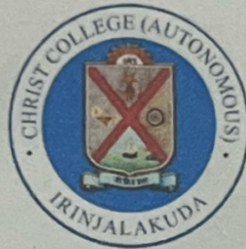
Anagha Unnikrishnan (CCAVSMT049)

FRACTAL GEOMETRY AND ITS APPLICATIONS

Project report submitted to Christ College (autonomous) in partial fulfillment of the requirement for the award of the B. Sc. Degree Programme in mathematics.

By

Naeema Ilyas (CCAVSMT069)



Department of Mathematics (Unaided)

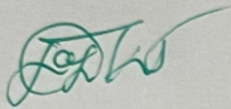
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Naeema Ilyas (CCAVSMT069), during the period of her study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023–2024.



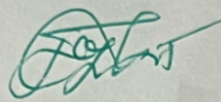
Dr. Joju K T

Associate Professor

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda



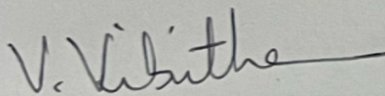
Dr. Joju K T

Coordinator

Dept. of Mathematics (Unaided)

Christ College (Autonomous),

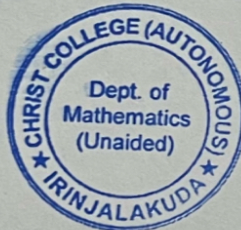
Irinjalakuda



External Examiner:

Place: Irinjalakuda

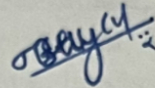
Date: 25/03/2024



Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

DECLARATION

I hereby declare that the project work entitled "FRACTAL GEOMETRY AND ITS APPLICATIONS" submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B,Sc Degree programme in Mathematics is a record of original project work done by me during the period of my study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda.



Naeema Ilyas (CCAVSMT069)

Place: Irinjalakuda

Date: 25/03/2024

FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION

Project report submitted to Christ College (Autonomous) in partial fulfillment of the requirement for the award of the B.Sc. Degree Programme in Mathematics.

By

Dona Binu (CCAVSMT063)



Department of Mathematics (Unaided)

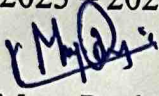
Christ College (Autonomous)

Irinjalakuda

2024

CERTIFICATE

This is to certify that the project entitled "FUZZY SET, FUZZY LOGIC AND THEIR APPLICATION" submitted to the Department of Mathematics (Unaided) in partial fulfillment of the requirement for the award of the B.Sc. Degree programme in Mathematics is a bonafide record of original research work done by Dona Binu (CCAVSMT063) during the period of his study in the Department of Mathematics (Unaided), Christ College (Autonomous), Irinjalakuda under my supervision and guidance during the year 2023 - 2024.



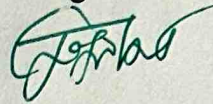
Ms. Mary Pauly K

Adhoc Lecture

Dept. Of Mathematics (Unaided)

Christ College (Autonomous),

Irinjalakuda.



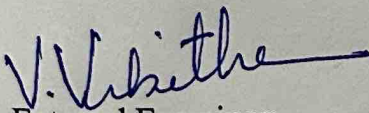
Dr. Joju K T

Coordinator

Dept. of Mathematics(Unaided)

Christ College(Autonomous),

Irinjalakuda.



External Examiner:

Dr. V. VIBITHA KOCHAMANI
Assistant Professor
Department Of Mathematics
Mar Dionysius College
Pazhanji, Kunnamkulam -680 542

Place: Irinjalakuda

Date: 25/03/2024

DECLARATION

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Dona Binu (CCAVSMT063)

Place: Irinjalakuda

Date: 25/04/2024