

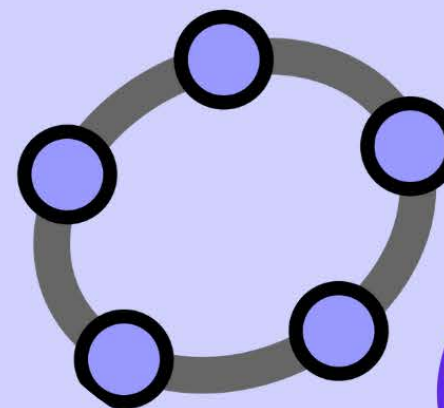
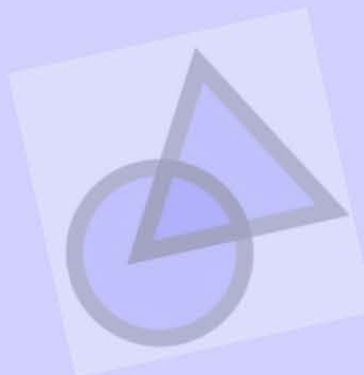


## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE ON DYNAMIC MATHEMATICS USING GEOGEBRA

#### COURSE DETAILS

**Eligibility** : Plus Two  
**Duration** : 3 Months  
**Total Hours** : 30



**Course Coordinator: Dr. Seena V**

#### LEARNING OUTCOMES

- To understand the basic usage of Geogebra
- To acquire the skill to construct dynamical graphs for demonstrating some of the fundamental concepts in analytical geometry and linear algebra
- To construct their own graphical models

#### COURSE OUTLINE

**Module 1 : Introduction to Geogebra**

**Module 2 : Geometry and Algebra  
using Geogebra**

**Module 3 : Analysis using Geogebra**



**Certificate Course on Dynamic Mathematics Using GeoGebra**  
**Week wise plan**

**Instructional hours per week: 2**

**Total hours: 30**

**Aims and Objectives**

GeoGebra is one of the dynamic mathematics software for teaching and learning mathematics. It is an open source software under GNU General Public License and freely available at [www.geogebra.org](http://www.geogebra.org). The aim of this course is to demonstrate how GeoGebra can be used for gaining a better understanding of mathematical concepts.

**Week 1: Introduction to GeoGebra**

- GeoGebra Interface
- Polygons and Angles
- Perpendicular and Parallel lines

**Week 2: Geometry and Algebra using GeoGebra**

- Drawing Graphs
- Use sliders to transform graphs

**Week 3 and 4: Analytic geometry**

- Points and line
- Using coordinates in Proofs
- Polar coordinates

**Week 5 : Taxicab geometry**

- Circles, ellipses, parabolas and hyperbolas
- Measuring distances

**Week 6 and 7 : Calculus and analysis**

- Limits and continuity
- Differential calculus
- Integral calculus

**Week 8 : Introduction to Statistical analysis**

**Week 9 and 10: Introduction to transformation geometry**

**Week 11 and 12 : Isometries and Matrices**

**Week 13 : Introduction to different types of geometries (Optional topic)**

**Week 15: Evaluation and conclusion of the course**

**Course Outcomes:** Upon successful completion of this course the students should be able to

- Understand the basic usage of GeoGebra.
- Construct dynamical graphs for demonstrating some of the fundamental concepts in analytical geometry and linear algebra.
- Construct their own graphical models to verify the validity of some of the theorems and proofs in calculus.
- Understand the basic usage of GeoGebra in higher mathematics



## **Evaluation**

1. Quiz based on the topic – 30 marks
2. Practical examination at the end of the course- 50 marks
3. Assignment/Record – 20 marks

## **References**

1. [https://app.geogebra.org/help/geogebraquickstart\\_en.pdf](https://app.geogebra.org/help/geogebraquickstart_en.pdf)
2. <https://app.geogebra.org/help/docuen.pdf>
3. <https://www.geogebra.org/materials>
4. College geometry using Geogebra, B.E. Reynolds and W E Fenton, John Wiley & Sons, Inc., 2012.

Certificate Course on Dynamic

57

Mathematics

Name of the Student	20	21	22	23	24	25	26	27	28	29	30	31	32
1. AARONE SHAJI	X	X	X	X	X	X	X	X	X				
2. ABHIYA BENNY	X	X	X	X	X	X	X	X	X				
3. ABISHEK M S	X	X	X	A	X	X	X	X	X				
4. ADOORN JOE BOBBY	X	X	X	X	X	X	X	X	X				
5. ALEENA F.D	X	X	A	X	X	X	X	X	X				
6. ALEN KRISHNA TR	X	X	X	X	X	A	X	X	X				
7. ALINA FRANCIS	X	X	X	X	X	X	X	X	X				
8. ALOYSIUS RABHY	A	X	X	X	X	X	X	X	X				
9. ALPHA JOHN	X	X	X	X	X	X	X	X	X				
10. AMALKRISHNAN NA	X	A	X	X	X	X	X	X	X				
11. ANASWARA DILIP P	X	X	X	X	X	X	X	X	X				
12. ANEENA E T	X	X	X	X	X	X	X	X	X				
13. ANGEL VARADHESE	X	X	X	X	X	X	X	X	X				
14. ANITA JOSE	X	X	X	X	X	X	X	X	X				
15. ANNABAIYA JACKSON	X	X	A	X	X	X	X	X	X				
16. ANNABAIYA LALLU	X	X	X	X	X	X	X	X	X				
17. ANSON JOSEPH PHILIP	X	X	X	X	X	X	X	X	X				
18. ANUROSE P S	X	X	X	X	X	X	X	X	X				
19. ASWATHY ANAND	X	A	X	X	X	X	X	X	X				
20. ASWIN DEV VS	X	X	X	X	X	X	X	X	X				
21. ASWIN K U	X	X	X	X	X	X	X	X	X				
22. ATHUL KRISHNA K.A	A	X	X	X	X	X	X	X	X				
23. ATHUL N A	X	X	X	X	X	X	X	X	X				
24. BINSO BITU	X	X	X	X	X	X	X	X	X				
25. DHARSHAN A.V	X	X	X	X	X	X	X	X	A				
26. DIVYA DENNY	X	X	X	X	X	X	X	X	X				
27. FATHIMA NUSRIN.A.A	X	X	X	X	X	X	X	X	X				
28. GIFTY ROSE GEORGE	X	X	X	X	X	X	X	X	X				
29. GOPIKRISHNAN P.G	X	X	X	X	X	X	X	X	A				
30. GUDUTHAM S MENON	X	X	X	X	X	X	X	X	X				
31. HIBA HANEEFA	X	X	A	X	X	X	X	X	X				
32. IRENE MARYA LORANGE	X	A	A	X	X	X	X	X	X				

	19/12/24 (2hrs)	26/12/24 (2hrs)	5/1/25 (2hrs)	12/1/25 (2hrs)	19/1/25 (2hrs)	26/1/25 (2hrs)	2/4/25 (2hrs)
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98	X	X	X	X	X	X	X
99	X	X	X	X	X	X	X
100	X	X	X	X	X	X	X



## Name of the students

33.	JOSNA T J	x	x	A	x	x	x	x	x
34.	K A ADHIRA	x	x	x	x	x	x	x	x
35.	K MERVIN DENNIS	x	x	x	x	x	x	x	x
36.	K S SREELAKSHMI	x	x	x	x	x	x	x	x
37.	KRIPA SHAJU	x	x	x	x	x	x	x	x
38.	KRISHNA GIRISH	x	x	x	x	x	x	x	x
39.	KRISHNAVENI V V	x	x	x	x	x	x	x	x
40.	MLAVIKA P	x	x	x	x	x	x	x	x
41.	MARY ELNA SHABU	x	x	x	x	x	x	x	x
42.	MANDITA R MENON	x	x	x	x	x	x	x	x
43.	NITHIN P. SUNILKUMAR	x	x	x	x	x	x	x	x
44.	NOVAL BENNY	x	x	x	x	x	x	x	x
45.	PRADUL SADANANDAN	x	x	x	x	x	x	x	x
46.	SABAREESH E S	x	x	x	x	x	x	x	x
47.	SNEHANA K S	x	x	x	x	x	x	x	x
48.	VISWANAND A S	x	x	x	x	x	x	x	x
49.	AARUS ANU	x	x	x	x	x	x	x	x
50.	ADHITH N.J	x	x	x	x	x	x	x	x
51.	ANAGHA UNIKRISHNAN	x	x	x	x	x	x	x	x
52.	ANETA AUGUSTIN	x	x	x	x	x	x	x	x
53.	ANGEL ROS BIJU	x	x	x	x	x	x	x	x
54.	ANIL ROBERT	x	x	x	x	x	x	x	x
55.	ARJUN KRISHNA K	x	x	x	x	x	x	x	x
56.	ASHITHA M.M	x	x	x	x	x	x	x	x
57.	ASWATHY K.S	x	x	x	x	x	x	x	x
58.	ASWIN K.S	x	x	x	x	x	x	x	x
59.	ATHAL C.T	x	x	x	x	x	x	x	x
60.	CHANDAN DEV A.S	x	x	x	x	x	x	x	x
61.	DONA BIJU	x	x	x	x	x	x	x	x
62.	FABIYA SHARON K.	x	x	x	x	x	x	x	x
63.	GRAGATHI A.	x	x	x	x	x	x	x	x

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(3 hrs)10/12/23  
(3 hrs)15/12/23  
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(2 hrs)19/2/24  
(2 hrs)26/2/24  
(2 hrs)5/3/24  
(2 hrs)12/3/24  
(2 hrs)19/3/24  
(2 hrs)26/3/24  
(2 hrs)2/4/24  
(2 hrs)



## Name of the student

64 Gauri Nandana A.  
 65 Manar Syam K.D.  
 66 Neema Iyas.  
 67 Sajivel K.U.  
 68 Sivendu S Manoj  
 69 Vivek Vishwan.

20-11-2023 (2hrs)

27/11/2023 (2hrs)

3/12/2023 (3hrs)

18/12/2023 (3hrs)

15/12/2023 (2hrs)

9/2/2024 (3hrs)

12/2/2024 (2hrs)

19/2/2024 (2hrs)

26/2/2024 (2hrs)

5/3/2024 (2hrs)

12/3/2024 (2hrs)

19/3/2024 (2hrs)

26/3/2024 (2hrs)

2/4/2024 (2hrs)

# **Dynamic Mathematics Using Geogebra - CPCC61**

## **Value Added Certificate Course**

### **Teacher Coordinator Report 2023**

Number of students	68
Date of examination	10-4-2024
Total students who passed exam	68
Total course duration	30 hrs

#### **Feedback analysis:**

- Students are very interested in plotting graphs using Geogebra
- Practical Sessions helps them to study Geogebra effectively
- 100% students enjoyed the classes and practical sessions.

**Course Coordinator: Dr Seena V**

CHRIST COLLEGE (AUTONOMOUS),  
IRINJALAKUDA  
CERTIFICATE COURSE EXAMINATION, MAR 2023  
Dynamic Mathematics Using GeoGebra- Retest

today

Time: 1hr

Max. Marks: 25

- 101 What is GeoGebra? [4 marks]
- 102 Write a short note on origin of GeoGebra [4 marks]
- 103 Draw a circumscribed circle to the triangle. [4 marks]
- 104 (a) Create a new button. [4 marks]  
(b) Write a GeoGebra script to change the colour and position of the points A and B.
- 105 Create a check box to show and hide the slider and the input box. [4 marks]
- 106 Make a GeoGebra tool that constructs the orthocenter of a triangle. Your tool should accept three vertices of a triangle as input objects and produce the triangle and the orthocenter as output objects. The tool should not display the intermediate objects that were used in the construction. [5 marks]
- 107 Draw the curve  $r = \cos(3\theta)$ . Construct a point on the plot, measure its polar coordinates, and then animate the point. (Make sure the point is moving in the direction of positive angles.) Which of the petals are produced by positive  $r$ -values and which are produced by negative  $r$ -values? [5 marks]
- 108 Use GeoGebra to analyze the continuity of the following function? [5 marks]

$$f(x) = \begin{cases} \frac{x-6}{x-3} & x < 0 \\ 2 & x = 0 \\ \sqrt{4+x^2} & x > 0 \end{cases} \quad (1)$$



**(Value Added Certificate Course)**  
**Dynamic Mathematics using Geogebra**  
**Summary Report 2023-24**

The course started on November 2023. There were 68 students enrolled and completed the course. The course was of 30 hrs duration. The course included theory classes and Practical Classes.

**Course Outcome:**

After completing this course, students will be able to:

CO1: Use GeoGebra's tools to construct and manipulate geometric figures and transformations.

CO2: Apply GeoGebra to visualize and analyze concepts in geometry, calculus, and statistics.

CO3: Create interactive mathematical models using GeoGebra's dynamic features.

CO4: Use GeoGebra to verify mathematical theorems and explore geometric relationships.

**Evaluation**

Participants will be assessed on practical assignments and tests after the completion of course. There will be both lab work and assignments.

**Target Audience:**

III year Degree Students

Course Coordinator: Dr. Seena V



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DEPARTMENT OF MATHEMATICS**

# *Certificate*

*This is to certify that*

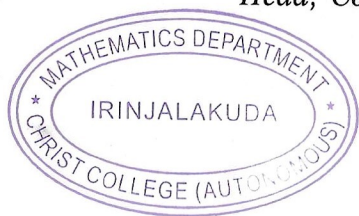
*Mr./Ms. Fathima Nissrin A. A*  
*of class Bsc Maths Aided Reg No. CCAVSMT011*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal







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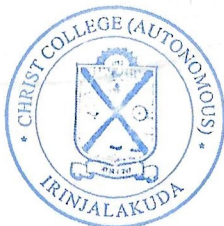
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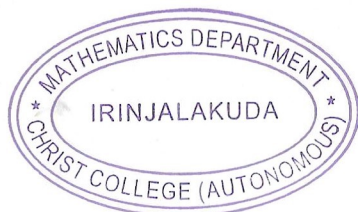
*This is to certify that*

*Mr./Ms. Gifty Rose George  
of class Bsc Maths Aided Reg No. CCAVSMT012  
completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal







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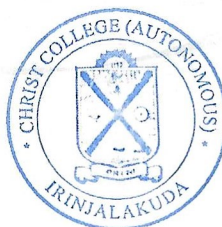
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*Mr./Ms. Irene Mariya Lorance*

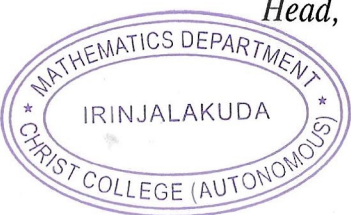
*of class Bsc Maths Aided Reg No. CCAVSM7014*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal







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DEPARTMENT OF MATHEMATICS**

# *Certificate*

*This is to certify that*

*Mr./Ms. Jogna. T. J*

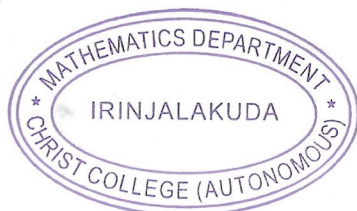
*of class B.Sc Maths Aided Reg No. CCAVSMTO15*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
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**POST GRADUATE AND RESEARCH  
DEPARTMENT OF MATHEMATICS**

# *Certificate*

*This is to certify that*

Mr./Ms. Adorn Joe Bobby  
of class B.Sc Mathematics Aided Reg No. CCAVSM7017  
completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

**Dr. SEENA V**

Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal





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DEPARTMENT OF MATHEMATICS**

# *Certificate*

*This is to certify that*

*Mr./Ms. Malavika P*

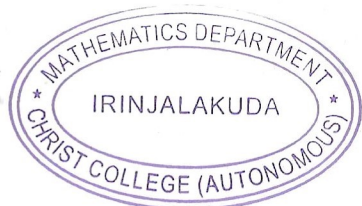
*of class B.Sc Mathematics (Aided) Reg No. CCAVSMT018*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal







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# *Certificate*

*This is to certify that*

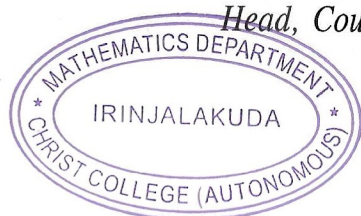
Mr./Ms. Noyal Benny  
of class Bsc Maths Aided Reg No. CCAVSMT019

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



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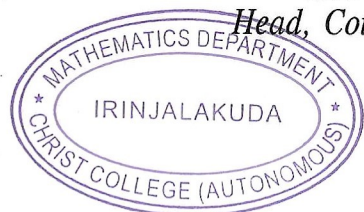
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*This is to certify that*

*Mr./Ms. Viswanand A-S*  
*of class B.Sc. Mathematics Aided Reg No. CCAVSMT020*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
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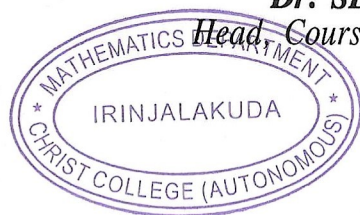
*This is to certify that*

*Mr./Ms. Aleena E.D*

*of class BSc Mathematics Aided Reg No. CCAVSMT021*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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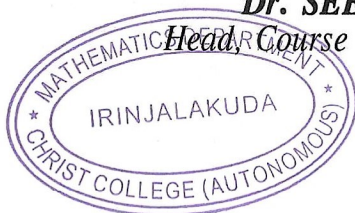
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*Mr./Ms. Aarone Shaji*  
*of class B.Sc. Mathematics Aided Reg No. CCAVSMT022*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*'Using Geogebra' conducted by the Post Graduate and Research Department of*  
*Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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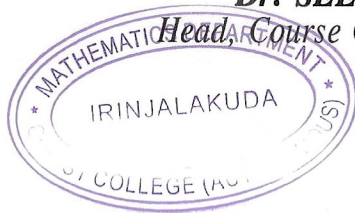
*This is to certify that*

Mr./Ms. Anaswara Dilip P  
of class BSc Maths Aided Reg No. CCAVSMT023

completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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*Mr./Ms. Anurose P. S*

*of class B8c Mathematics Aided Reg No. CCAVSMT 024*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
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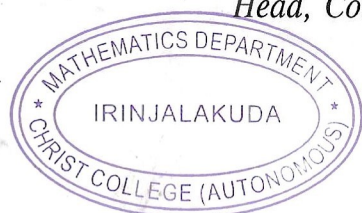
*This is to certify that*

*Mr./Ms. Aswin Dev V.S*  
*of class Bsc Maths Aided Reg No. CCAVSM T026*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
*Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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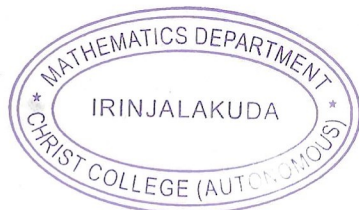
*This is to certify that*

*Mr./Ms. Diya Denny  
of class Bsc Maths Aided Reg No. CCAVSM7027  
completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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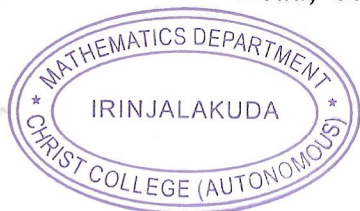
*of class BSc Maths Aided Reg No. CCAVSMT030*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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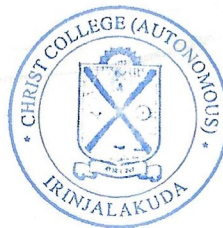
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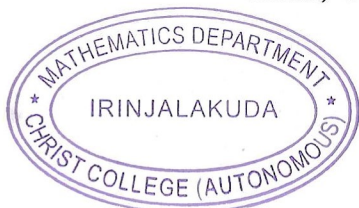
Mr./Ms. K. Mervin Dennis  
of class Bsc Maths Aided Reg No. CCAVSMT031

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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Mr./Ms. Sabareesh E. S

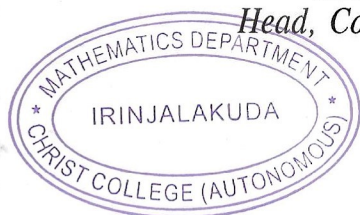
of class BSc Mathematics Aided Reg No. CCAVSMT 035

completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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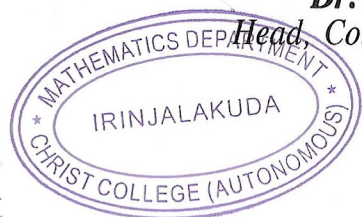
*This is to certify that*

*Mr./Ms. Alina Francis*

*of class BSc Mathematics Aided Reg No. CCAV8MT036*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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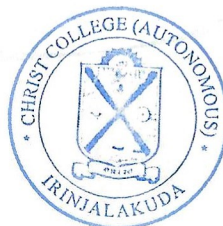
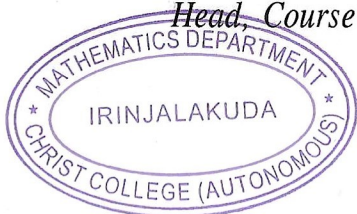
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*This is to certify that*

Mr./Ms. Aloysius Raphy  
of class Bsc Mathematics Aided Reg No. CCAVSMT037  
completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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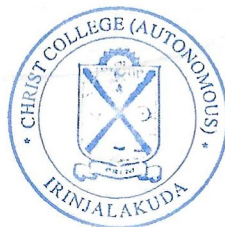
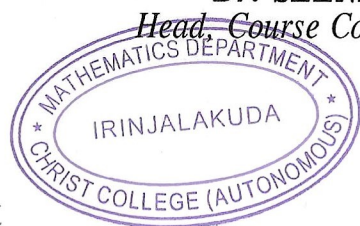
*Mr./Ms. Alpha John*

*of class Bsc Mathematics Aided Reg No. CCAVSMT038*

*completed the value added course in 'Certificate course on Dynamics Mathematics*

*'Using Geogebra' conducted by the Post Graduate and Research Department of  
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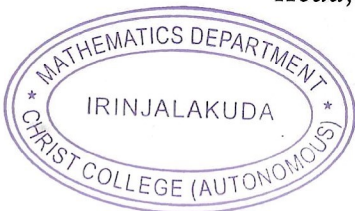
*Mr./Ms. Aswathy Anand*  
*of class Bsc Maths Aided Reg No. CCAVSM7039*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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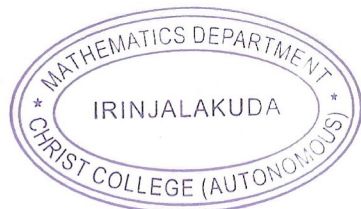
*This is to certify that*

Mr./Ms. Aswin K. U  
of class Bsc Maths Aided Reg No. CCAVSM T040  
completed the value added course in 'Certificate course on Dynamics Mathematics  
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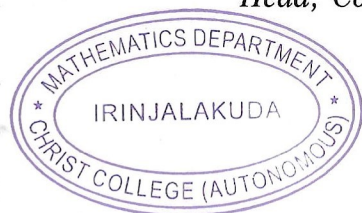
*This is to certify that*

*Mr./Ms. Dhasshana A. V*  
*of class Bsc Maths Aided Reg No. CCAVSM T041*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
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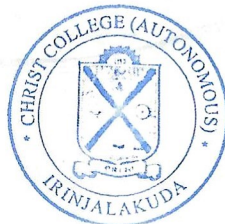
*This is to certify that*

*Mr./Ms. Gioutham S Menon*

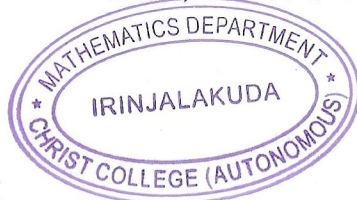
*of class BSc Mathematics Aided Reg No. CCAVSMT042*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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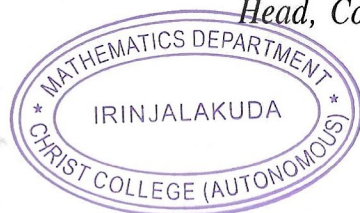
*Mr./Ms. K. S. Sree lakshmi*  
*of class Bsc Maths Aided Reg No. CCAVSMT043*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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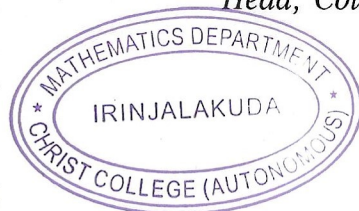
*This is to certify that*

*Mr./Ms. Krishnaveni V.V  
of class B.Sc Maths Aided Reg No. CCAVSMTO44  
completed the value added course in 'Certificate course on Dynamics Mathematics  
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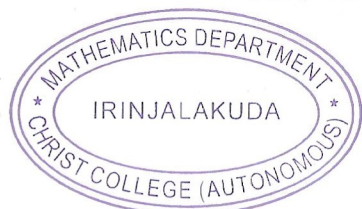
*of class Bsc Maths Aided Reg No. CCAVSMT045*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
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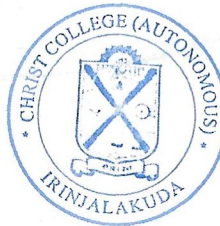
*This is to certify that*

*Mr./Ms. Nandita R Menon*

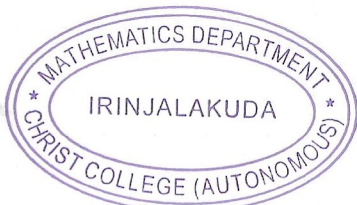
*of class B.Sc Maths Aided Reg No. CCAVSMT 046*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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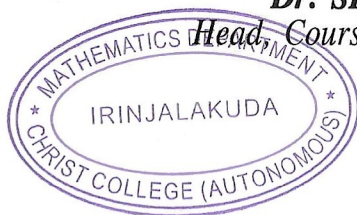
# *Certificate*

*This is to certify that*

Mr./Ms. Alen Krishna T.R  
of class Bsc Mathematics Aided Reg No. CCAVSMT 048

completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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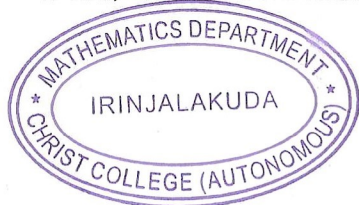
*This is to certify that*

Mr./Ms. Stiba Haneefa

of class Bsc Mathematics Aided Reg No. CCAVSMT013

completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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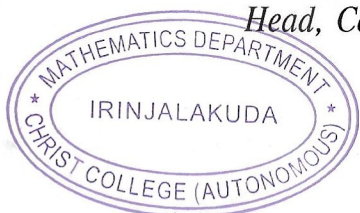
*This is to certify that*

*Mr./Ms. Anagha Unnikrishnan  
of class Bsc Mathematics Unaided Reg No. CCAVSMT049  
completed the value added course in 'Certificate course on Dynamics Mathematics  
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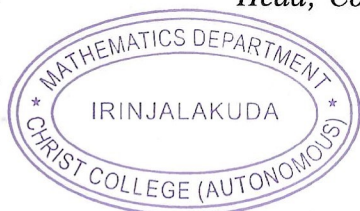
*of class Bsc Mathematics Unaided Reg No. CCAVSMT050*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
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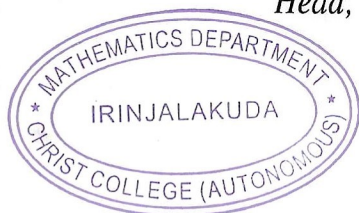
*of class \_\_\_\_\_ Reg No. \_\_\_\_\_*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
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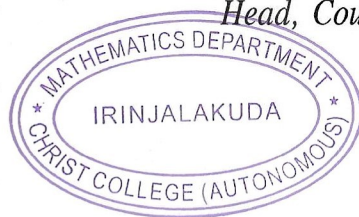
Mr./Ms. Ashitha M. M.  
of class BSc Maths Unaided Reg No. CCAVSMT051

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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*of class BSc Maths Unaided Reg No. CCAVSMT052*

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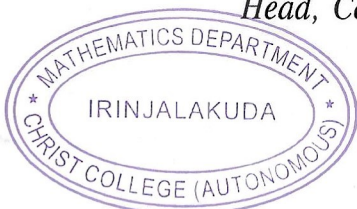
*This is to certify that*

*Mr./Ms. Giouri mandana . A*  
*of class Bsc Mathematics Unaided Reg No. CCAVSMT 053*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
*Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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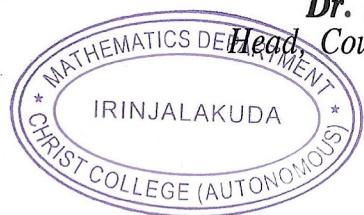
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*Mr./Ms. Sivendu S Mamoj*  
*of class BSc Maths Unaided Reg No. CCAVSMT054*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
*Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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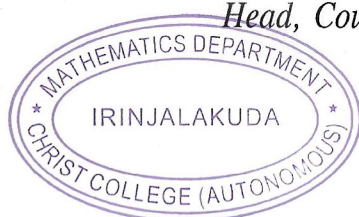
*This is to certify that*

Mr./Ms. Angel Ros Biju  
of class Bsc Maths Unaided Reg No. CCAVSMT055  
completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

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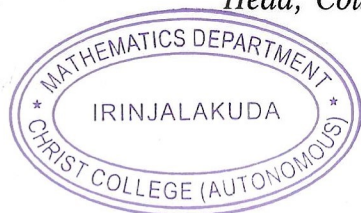
*of class Bsc Mathematics Unaided Reg No. CCAVSMT056*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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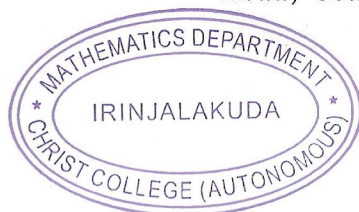
of class BSc Maths Unaided Reg No. CCAVSMT057

completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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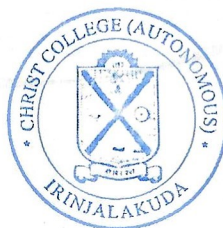
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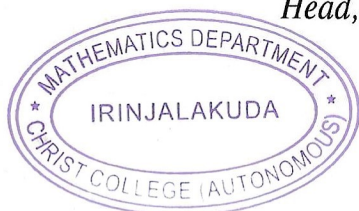
*This is to certify that*

*Mr./Ms. Aneeta Augustin*  
*of class Bsc Maths Unaided Reg No. CCAVSMT058*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
*Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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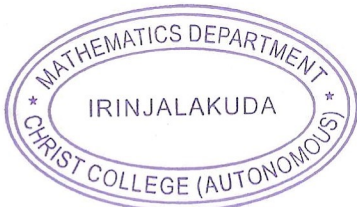
of class BSc Mathematics Unaided Reg No. CCAVSMT059

completed the value added course in 'Certificate course on Dynamics Mathematics  
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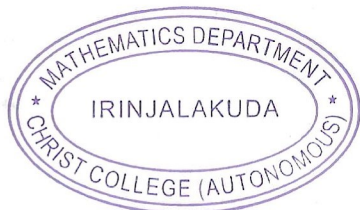
*Mr./Ms. Aswathy K.S*  
*of class Bsc Maths Unaided Reg No. CCAVSMT 060*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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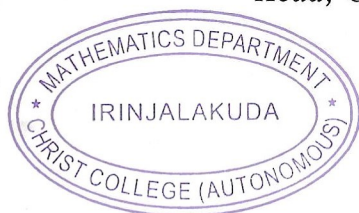
*This is to certify that*

Mr./Ms. Athul C.J  
of class BSc Mathematics Unaided Reg No. CCAVSMT061  
completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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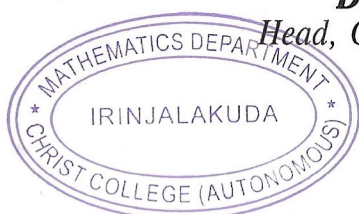
*Mr./Ms. Chandande A.S*  
*of class Bsc Maths Unaided Reg No. CCAVSMT062*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

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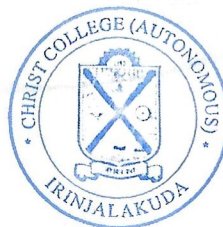
*This is to certify that*

Mr./Ms. Dona Binu

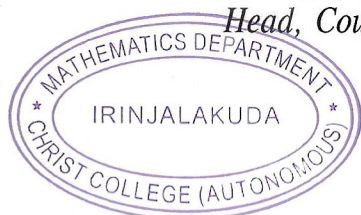
of class Bsc Maths Unaided Reg No. CCAVSMT063

completed the value added course in 'Certificate course on Dynamics Mathematics  
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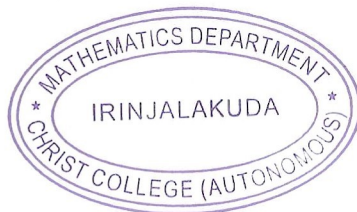
*This is to certify that*

*Mr./Ms. Gayathri A.*  
*of class BSc Mathematics Unaided Reg No. CCAVSMT064*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*Using Geogebra' conducted by the Post Graduate and Research Department of*  
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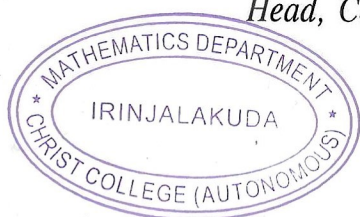
*This is to certify that*

Mr./Ms. Manav Syam K. D  
of class BSc Maths Unaided Reg No. CCAVSMT065  
completed the value added course in 'Certificate course on Dynamics Mathematics  
Using Geogebra' conducted by the Post Graduate and Research Department of  
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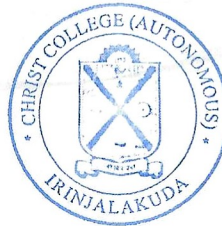
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Mr./Ms. Aneena E.T

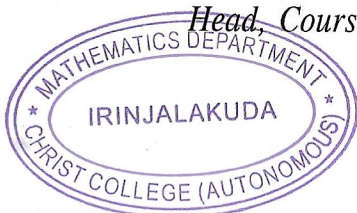
of class Bsc Maths Arded Reg No. CCAVSMT 002

completed the value added course in 'Certificate course on Dynamics Mathematics Using Geogebra' conducted by the Post Graduate and Research Department of Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

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*Mr./Ms. Angel Varghese*  
*of class Bsc Maths Aided Reg No. CCAVSMT 003*  
*completed the value added course in 'Certificate course on Dynamics Mathematics*  
*'Using Geogebra' conducted by the Post Graduate and Research Department of*  
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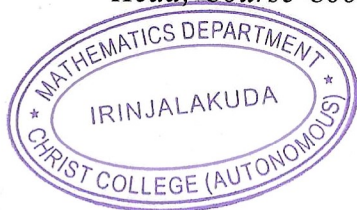
*Mr./Ms. Anita Jose*  
*of class Bsc Maths Aided Reg No. CCAVSMT004*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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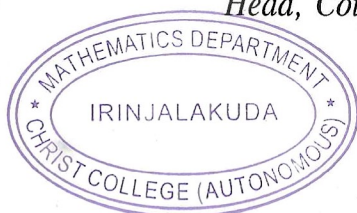
*Mr./Ms. Anmariya Jackson*  
*of class Bsc Maths Aided Reg No. CCAVSMT005*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
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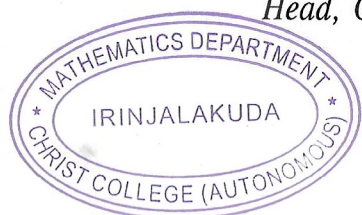
*Mr./Ms. Annmaria Lalu*  
*of class Bsc Maths Aided Reg No. CCAVSMT 006*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
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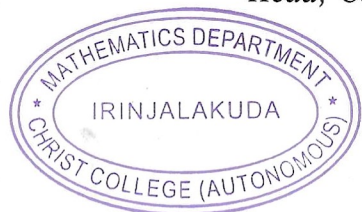
*Mr/Ms. Anson Joseph Philip*  
*of class Bsc Maths Ordred Reg No. CCAVSMT007*

*completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.*

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
Principal







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DEPARTMENT OF MATHEMATICS**

# *Certificate*

*This is to certify that*

Mr./Ms. Athul Krishna K. A

of class Bsc Mathematics Aided Reg No. CCAVSMT008

completed the value added course in 'Certificate course on Dynamics Mathematics

Using Geogebra' conducted by the Post Graduate and Research Department of

Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

**Dr. SEENA V**  
Head, Course Coordinator



**Rev. Fr. Dr. JOLLY ANDREWS**  
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# *Certificate*

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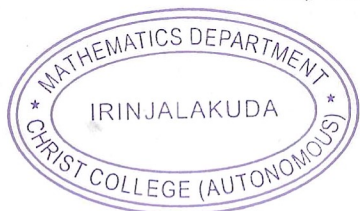
of class Bsc Maths Aided Reg No. CCAVSMT 009

completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

**Dr. SEENA V**  
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# *Certificate*

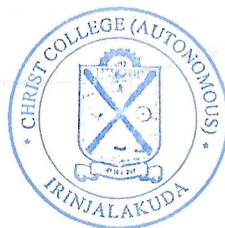
*This is to certify that*

Mr./Ms. Binso Biju

of class Bsc Maths Aided Reg No. CCAVSM7010

completed the value added course in 'Certificate course on Dynamics Mathematics  
'Using Geogebra' conducted by the Post Graduate and Research Department of  
Mathematics on 2023 at Christ College (Autonomous), Irinjalakuda.

**Dr. SEENA V**  
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