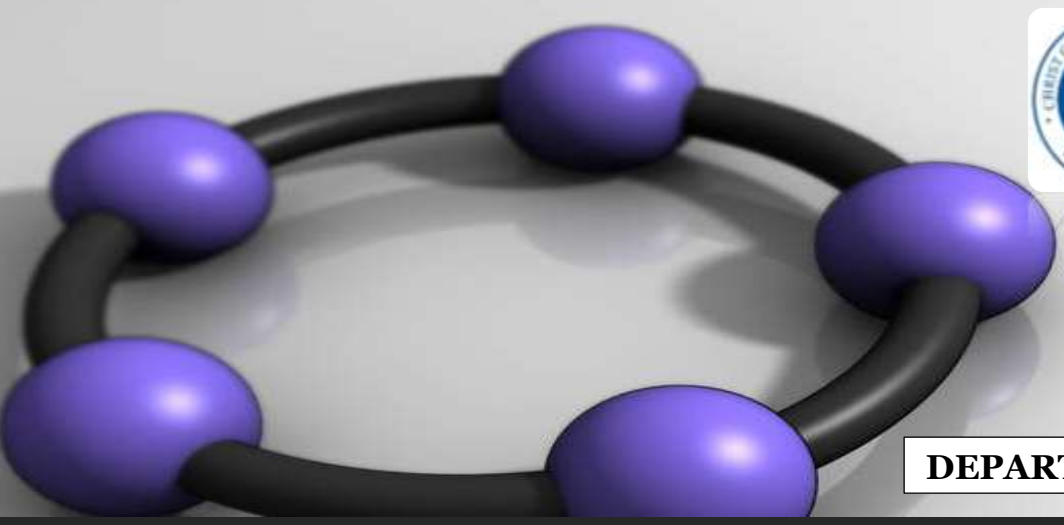

CHRIST
COLLEGE (AUTONOMOUS)
IRINJALAKUDA, KERALA

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE DETAILS

NAME OF THE COURSE

Basics of GeoGebra

COURSE CODE

CPCC44

COURSE DETAILS

Total hours: 30

COURSE COORDINATOR

Ms. Tintumol Sunny

PARTNERSHIP WITH

MATH Lab Cochin

ABOUT COLLEGE

Christ College (Autonomous) Irinjalakuda, established in the year 1956 by CMI fathers has always been place where young generations are moulded towards a bright future. College has excellent infrastructure, with state-of-the-art laboratories, seminar rooms and lecture halls. The campus is Wi-Fi enabled. Presently College is house for 4500+ students. 200 teaching staff and 45 supporting staff. The strength of the College lies in its hardworking and tech savvy teachers who are eager to involve in all matters of students. The lush green campus with gardens and open gym is moving towards the next phase on education both offline and online.

AIM OF THE COURSE

To understand the features and uses of the software 'GeoGebra'. To learn the different tools and their applications and various commands in GeoGebra. To create geometrical shapes and plot mathematical functions in GeoGebra. To depict the geometrical meaning of calculus using GeoGebra. To construct 3D shapes and objects in GeoGebra

PROGRAM SPECIFIC OUTCOME

- To learn the concepts of mathematics in an interesting way
- To Understand and present mathematical ideas using the GeoGebra software

- To visualize 3D functions and shapes and thus learn 3D related topics easily.

SUGGESTED METHODOLOGY OF TEACHING AND LEARNING

- Online/Offline classes
- Practical sessions on GeoGebra
- Practicing constructions in GeoGebra

COURSE OUTCOMES

CO1	Understanding a new software and its interface
CO2	Plotting lines, points, polygons and circles in GeoGebra
CO3	Learn new tools and plot functions in GeoGebra
CO4	Construct conics in GeoGebra, plot complex numbers in GeoGebra

SYLLABUS

Module 1: INTRODUCTION TO GEOGEBRA

Introduction to Euclid's Geometry- Euclid's axioms, Euclid's postulates.

Introduction to GeoGebra- GeoGebra Classic' features- How to install.

GeoGebra interface-Menu bar, Toolbar, input bar- Algebra View and Graphic's View.

Module 2: BEGINNING GEOGEBRA

Points and lines-plotting points, lines, line segments, point of intersection, mid-point, perpendicular and parallel lines.

Module 3: NEW TOOLS AND PLOTTING FUNCTIONS

Slider tool, Trace and Animation, Area using GeoGebra, Checkbox and Input box,

Plotting functions-Polynomial, modulus, rational, signum, greatest integer, square root.

Trigonometric functions.

Module 4: CONIC SECTIONS, SEQUENCE AND COMPLEX NUMBERS

Parabola, Ellipse, Hyperbola- Various commands to construct and tools for conics.

Sequences and Sum, Complex Numbers plotting, arithmetic operations, modulus, argument.