PG DEPARTMENT OF MATHEMATICS

MAHATMA GANDHI COLLEGE, IRITTY

Re-Accredited by NAAC with A Grade

(Aided and Affiliated to Kannur University)

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CERTIFICATE COURSE IN

"LaTeX and GeoGebra" (CCMATLG)

SYLLABUS w.e.f. 2021

Course Code	Theory	Practical	Marks		
			External	Internal	Total
CCMATLG	12Hrs	18 Hrs	40	10	50

COURSE OUTCOMES

CO1	Learn installation of the software
CO2	Understand the use of LateX in typesetting
CO3	Learn basic structure of a LateX document
CO4	Understand the preamble of a document
CO5	Learn to include Title, Author, Date and Comments
CO6	Learn to bold, italics and underlining a content
CO7	Learn to add images, captions, creating list and tables
CO8	Understand different Mathematics environment and Learn to write mathematical expressions using different commands
CO9	Understand different types of packages
CO10	Learn to create a simple letter, research article or question paper using LaTex
CO11	Familiarizing GeoGebra

Module 1 - What is LaTex?, Why learn LaTex?. Writing your first piece of LateX. The preamble of a document. Including title, author and date information. Adding comments.

Bold, Italics and underlining. Adding Images. Captions, Labels and references. Creating list in LateX. Adding math to LateX. Different packages.

(10 Hours)

Module 2 –. Basic document structure. Abstract. Paragraphs and new lines. Chapters and sections. Creating tables. Adding boarders. Adding table of contents.

(10 Hours)

Module 3 - Familiarizing with GeoGebra tools , Relation with Algebra and Geometry (Giving algebraic input and getting geometric output),Creation of three dimensional geometrical objects ,Matrix Theory with the help of GeoGebra.

(10 Hours)

Practical Work:

1. Prepare an article on some MSc topic(Not more than 5 pages)
2. Construction of an equilateral triangle with given sides Fifis
3. Construction of cylinders, spheres of given measurements.
4. Finding eigen values and eigen vectors of given matrix.
5. Locating points and finding position vectors.

References:

1. 'LaTex beginners Guide', 2nd Edition, Steffan Kotwitz, 2021.
2. 'More Math into LaTex', George Gratzer, 2007.
3. "An Introduction to GeoGebra", Steve Phelps
4. e-resources