SREE AYYAPPA COLLEGE

(Managed by Travancore Devaswom Board, Thiruvananthapuram)
Government Aided College, Affiliated to University of Kerala
Eramallikkara, Chengannur, Alappuzha District – 689 109, Kerala, India
www.sreeayyappacollege.ac.in

December 2021 - February 2022

Advance Certificate Programme on

LATEX - A Document Preparation Software in Mathematics

Organized by Department of Mathematics, SAC

Course Code: SDC 2022

Course Objective

LATEX is a Science Typesetting Software. The aim of introducing LATEX software is to enable students to typeset the project report which is a compulsory requirement for finishing their undergraduate programme successfully.

COURSE CERTIFICATE

Eligibility: Plus Two or any Bachelors Degree.
The course fee is free.

To get a certificate, you have to register and write the proctored examination at Sree Ayyappa College, Eramallikkara.
Examination Date: 20th March, 2022, Morning : 10:00 am to 11:30 am
Registration forms are made available at Mathematics Department.

CRITERIA TO GET A CERTIFICATE

Written Examination = 50 marks (Objective Type. No negative marks for wrong answers)

For more Details Contact

Dr. R.T. Ananth Kumar (Assistant Professor of Physics)
Convener
Centre for Incubation and Entrepreneurship (CIE)
Sree Ayyappa College
Eramallikkara, Chengannur
Alappuzha District – 689109
Kerala
Mail: ananthkumarrt@gmail.com
Mobile: +91-9847572822

Organized by

Centre for Incubation and Entrepreneurship, Sree Ayyappa College

In Association with

Department of Mathematics and IQAC

SKILL DEVELOPMENT COURSE IN MATHEMATICS   **Course Code: SDC 2022**

L^AT_EX - A Document Preparation Software in Mathematics   **Instructional hours- 35**

L^AT_EX is a Science Typesetting Software. The aim of introducing L^AT_EX Software is to enable students to typeset the project report which is a compulsory requirement for finishing their undergraduate programme successfully.

L^AT_EX for Preparing a Project Report :

Graphical User Interface (GUI)/ Editor like Kile or TeXstudio should be used for providing training to the students. The main topics are the following:

Typesetting a simple article and compiling it;

How spaces are treated in the document;

Document layout : various options to be included in the documentclass command, page styles, splitting files into smaller files, breaking line and page, using boxes (like, mbox) to keep text unbroken across lines, dividing document in to parts like frontmatter, mainmatter, backmatter, chapters, sections, etc., cross referencing with and without page number, adding footnotes;

Emphasizing words with \emph, \texttt, \textsl, \textit, \underline etc.

Basic environments like enumerate, itemize, description, flushleft, flusuright, center, quote, quotation

Controlling enumeration via the enumerate package.

Tables : Preparing a table and floating it, the longtable environment;

Typesetting Mathematics : Basic symbols, equations, operators, the equation environment and reference to it, the displaymath environment, exponents, arrows, basic functions, limits, fractions, spacing in the Mathematics environments, matrices, aligning various objects, multi-equation environments, suppressing numbering for one or more equations, handling long equations, phantoms, using normal text in math mode, controlling font size, typesetting theorems, definitions, lemmas, etc., making text bold in math mode, inserting symbols and environments (array, pmatrix etc.) using the support of GUIs;

Figures : Including JPG, PNG graphics with graphicx package, controlling width, height etc., floating figures, adding captions, the wrapfig package;

Adding references/bibliography and citing them, using the package hyperref to add and control hypertext links, creating presentations with pdfscreen, creating new commands;

Fonts : changing font size, various fonts, math fonts,
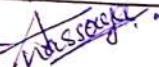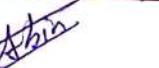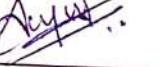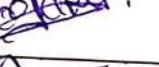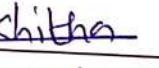
Spacing : changing line spacing, controlling horizontal, vertical spacing, controlling the margins using the geometry package, full-page package

Preparing a dummy project with title page, acknowledgement, certificates, table of contents (using \table of contents), list of tables, table of figures, chapters, sections, bibliography (using the bibliography environment).

Students List

1. **Advance certificate programme on "LATEX - A Document Preparation Software in Mathematics" (2021-2022)**

Course Code: SDC 2022

S.No.	Name	Signature
1.	Anasooya K Nair	
2.	Aneesh V	
3.	Gouripriya M	
4.	Meena V Raj	
5.	Abin Jacob Manoj	
6.	Gopika R Nair	
7.	Niranjana V T	
8.	Pooja Krishna M	
9.	Samudra Prasad	
10.	Anuja S S	
11.	Likhitha Babu	
12.	Sreekutty	

Course Coordinator
01/12/2021

Attendance

1. Advance certificate programme on "LATEX - A Document Preparation Software in Mathematics"

Attendance For December 2021
Time: 03:15 pm to 04:15 pm

Course Code: SDC 2022

S.No.	Name	1/12/21	3/12/21	6/12/21	8/12/21	10/12/21	13/12/21	15/12/21	17/12/21	20/12/21	22/12/21
1.	Anasooya K Nair	*sign*	*sign*	*sign*	*sign*	*sign*	A	*sign*	*sign*	*sign*	*sign*
2.	Aneesh V	*sign*	*sign*	A	*sign*	*sign*	*sign*	A	*sign*	*sign*	*sign*
3.	Gouripriya M	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*
4.	Meena V Raj	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*
5.	Abin Jacob Manoj .	*sign*	*sign*	A	*sign*	*sign*	A	*sign*	*sign*	*sign*	*sign*
6.	Gopika R Nair	*sign*	*sign*	A	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*
7.	Niranjana V T	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*
8.	Pooja Krishna M	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	A	*sign*	*sign*	*sign*
9.	Samudra Prasad	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*	A	*sign*
10.	Anuja S S	*sign*	*sign*	*sign*	*sign*	*sign*	A	*sign*	*sign*	*sign*	*sign*
11.	Likhitha Babu	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha
12.	Sreekutty	*sign*	*sign*	*sign*	A	*sign*	*sign*	*sign*	*sign*	*sign*	*sign*

No. of days classes conducted in December, 2021 : 10

Course Coordinator

(Dr ANANTH KUMAR RT)

HOD (Mathematics)

IQAC Convener

1. **Advance certificate programme on "LATEX - A Document Preparation Software in Mathematics"**

Attendance For January 2022
Time: 03:15 pm to 04:15 pm

Course Code: SDC 2022

S.No.	Name	3/1/22	5/1/22	7/1/22	10/1/22	12/1/22	14/1/22	17/1/22	19/1/22	21/1/22	24/1/22	28/1/22
1.	Anasooya K Nair	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
2.	Aneesh V	A	*sig*	*sig*	A	*sig*	*sig*	*sig*	*sig*	A	*sig*	*sig*
3.	Gouripriya M	*sig*	A	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
4.	Meena V Raj	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
5.	Abin Jacob Manoj	*sig*	*sig*	*sig*	A	*sig*	*sig*	A	*sig*	*sig*	A	*sig*
6.	Gopika R Nair	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	A	*sig*	*sig*	*sig*	*sig*
7.	Niranjana V T	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
8.	Pooja Krishna M	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
9.	Samudra Prasad	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
10.	Anuja S S	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*
11.	Likhitha Babu	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha	A	Likhitha	Likhitha	Likhitha	Likhitha	Likhitha
12.	Sreekutty	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*	*sig*

No. of days classes conducted in January, 2021 :   11

Course Coordinator

(Dr. ANANTH KUMAR RT)

HOD (Mathematics)

PRINCIPAL
Sree Ayyappa College (T.D.B)
Eramallikkara - 689 109
Thiruvanvandoor, Chengannur
Alappuzha Dist, Kerala

IQAC Convener

Scanned with OKEN Scanner

Attendance

1. **Advance certificate programme on "LATEX - A Document Preparation Software in Mathematics"**

Attendance For February 2022
Time: 03:15 pm to 04:15 pm

Course Code: SDC 2022

S.No.	Name	2/2/22	4/2/22	7/2/22	9/2/22	11/2/22	14/2/22	16/2/22	18/2/22	21/2/22	23/2/22	25/2/22	28/2/22
1.	Anasooya K Nair												
2.	Aneesh V	A											
3.	Gouripriya M								A				
4.	Meena V Raj											A	
5.	Abin Jacob Manoj				A								
6.	Gopika R Nair												
7.	Niranjana V T									A			
8.	Pooja Krishna M												
9.	Samudra Prasad												
10.	Anuja S S												
11.	Likhitha Babu												
12.	Sreekutty								A				

No. of days classes conducted in February, 2021 : 12
Total Number of classes conducted from December 2021 to March 2022 :

Course Coordinator
(D- ANANTH KUMAR RT)

HOD (Mathematics)

IQAC Convener

PRINCIPAL
Sree Ayyappa College (T.D.B)
Eramallikkara - 689 109
Thiruvanvandoor, Chengannur
Alappuzha Dist, Kerala

Advance certificate programme on
"LATEX - A Document Preparation Software in Mathematics"

Course code : SDC 2022

SREE AYYAPPA COLLEGE, ERAMALLIKKARA

Skill Development Course in Mathematics Examination,

March 2022

LaTeX - A Document Preparation Software in Mathematics

Course Code: SDC 2022

Time: $1\frac{1}{2}$ Hours   *Maximum Marks: 50*

Section A

All questions are compulsory and carries **Two** marks each.

1. The actual syntax of the documentclass command is . . . .

2. In LaTeX, items can be listed using . . . environment.

3. Line breaks in a LaTeX document are produced by . . . .

4. Bibliography can be produced by the . . . environment.

5. $\sqrt{2}$ is produced by the . . . command.

6. How to compile a LaTeX input file?

7. Describe the use of the column specify p.

8. Write a LaTeX code to produce $\mathbb{N}$ in the output.

9. Write a LaTeX code to typeset

$$\int_0^\infty \frac{sinx}{x}\,dx = \frac{\pi}{2}$$

10. How we produce a group equations in LaTeX .

All questions are compulsory and carries **Five** marks each.

11. Write a LaTeX code to typeset the following:

    Find the

    (a) Transpose

    (b) Inverse

    of the matrix $\quad A = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$

12. Write down the source code for:

$$
\begin{aligned}
(a+b)^2 &= a + ba + b \\
&= a^2 + ab + ba + b^2 \\
&= a^2 + 2ab + b^2
\end{aligned}
$$

13. Write down the source code for:

$$
\int_a^b f(x)\ dx = \lim_{n \to \infty} \sum_{k=1}^{n} f(x_k)\Delta x_k
$$

14. Write down the source code for:

    ## <u>Binomial Theorem</u>

$$
(a+b)^n = a^n + \binom{n}{1}a^{n-1}b + \binom{n}{2}a^{n-2}b^2 + \cdots + \binom{n}{n-1}ab^{n-1} + b^n
$$

15. Write down the source code for:

Definition 1. *A non empty set G together with a function $* : G \times G \to G$ (which s usually called as a binary operation) is a group if for all $a, b, c \in G$*

Theorem 1 (**Monotone Convergence Theorem**). *Let (x_n) be a bounded monotone sequence. Then it is convergent.*

Proof. Since (x_n) is bounded, there exists an $M > 0$ such that ... □

16. Write down the source code for:

Tables

Sl.No.	Subject	Marks
1	English	9
2	Maths	14
3	Science	15

Table 1: Marks of Each Subject

Planet	Distance from Sun (km)	
	Maximum	**Minimum**
Mercury	69400000	46800000
Venus	109000000	107600000

Table 2: Distance from Sun
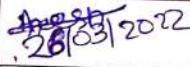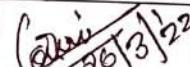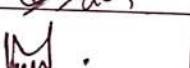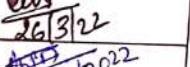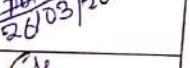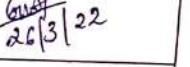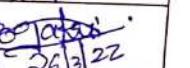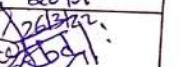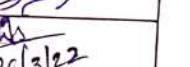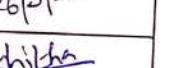
Result

1. Advance certificate programme on "LATEX – A Document Preparation Software in Mathematics" (2021-2022)

Date of Exam : 20/03/2022
Result published on : 26/03/2022

Course Code: SDC 2022

S.No.	Name	Total marks awarded	Maximum marks	Result	Whether Received the certificate	Signature with date
1.	Anasooya K Nair	42	50	Pass	Yes	Anasooya 26/3/22
2.	Aneesh V	33	50	Pass	Yes	Aneesh 26/03/2022
3.	Gouripriya M	45	50	Pass	Yes	Gauri 26/3/22
4.	Meena V Raj	42	50	Pass	Yes	26/3/22
5.	Abin Jacob Manoj	38	50	Pass	Yes	26/03/2022
6.	Gopika R Nair	40	50	Pass	Yes	Gika 26/3/22
7.	Niranjana V T	45	50	Pass	Yes	26/3/22
8.	Pooja Krishna M	43	50	Pass	Yes	Pooja 26/3/22
9.	Samudra Prasad	45	50	Pass	Yes	26/3/22
10.	Anuja S S	38	50	Pass	Yes	26/3/22
11.	Likhitha Babu	40	50	Pass	Yes	Likhitha 26/3/22
12.	Sreekutty	42	50	Pass	Yes	Sreekutty 26/3/22

R.T.A 26/03/2022
Course Coordinator

(Dr. ANANTH KUMAR R T)

26/03/2022
HOD (Mathematics)

IQAC Convener

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Alappuzha Dist, Kerala

SREE AYYAPPA COLLEGE

(Govt. Aided College, Affiliated to University of Kerala)

Eramallikkara, Chengannur, Alappuzha - 689 109. Kerala
sreeayyappacollege@gmail.com

CERTIFICATE

This certificate is awarded to _____ _____
_____ for successfully completing the course

LATEX - A Document Preparation Software in Mathematics

(Course Code: SDC 2022)

with a consolidated score of _____ %.

(December 2021 - February 2022)

**CONVENER
CIE**

IQAC CONVENER

PRINCIPAL

BEST
AWARD

SREE AYYAPPA COLLEGE

(Managed by Travancore Devaswom Board, Thiruvananthapuram)
Govt. Aided College, Affiliated to the University of Kerala
Established in 1995
Eramallikkara, Chengannur
Alappuzha District – 689109
Kerala
www.sreeayyappacollege.ac.in

Department of Mathematics
Advance Certificate Programme on

SKILL DEVELOPMENT COURSE 2021-2022
A Brief Report

Course title : Advance certificate programme on "LATEX - A Document Preparation Software in Mathematics"

Course Code: SDC 2022

Course Objective

LATEX - is a Science typesetting software. The aim of introducing LATEX software is to enable students to typeset the project report which is a compulsory requirement for finishing their undergraduate programme successfully.

Course details

Duration in month: 3 Months (35 hours, Theory & Practical)
Course started on: 01/12/2021 (Wednesday)
Course ended on: 28/02/2022 (Monday)
Date of the classes conducted: Monday, Wednesday & Friday (Dec. 2021 - March 2022)
Time of the classes conducted: 03:15 pm to 04:15 pm
Date of Examination: 20/03/2022
Date of result publication: 26/03/2022

Brief Report

The theory and practical sessions of the advanced certificate programme on "LATEX - A Document Preparation Software in Mathematics" was handled by Dr. Vidhya N (The Head. Department of Mathematics). In the academic year 2021-2022 a total of twelve students attended the certificate programme and all the students completed the course successfully. The hard copies of the certificates were issued to the students.

Course Coordinator
26/03/2022

(Dr. ANANTH KUMAR RT)

Dr. Vidhya. N
HoD

IQAC Convener
26/03/2022