

**DHANAMANJURI UNIVERSITY**  
**DECEMBER 2025**

Name of Programme : B.A./B.Sc. Mathematics

Semester : 3<sup>rd</sup>

Paper Type : SEC (Theory)

Paper Code : SMA-005

Paper Title : Latex and HTML

Full Marks : 30

Pass Marks : 12

**Duration: 2 Hours**

*The figures in the margin indicate full marks for the questions.*

1. Choose the correct answer and rewrite along with the letter corresponding the correct answer: 1×3=3
- i) Commands are preceded by the symbol in Latex
- .A. \ (backslash)      B. \\ (double backslash)  
C. #(hash symbol)      D. %(modulus)
- ii) The package ..... is used for basic symbols and mathematical environments
- .A. graphicx      B. beamer  
C. amsmath      D. pstricks
- iii) In LaTeX curly brackets `{}` \document class are used to specify
- .A. functional elements  
B. Optional elements  
C. Class elements  
D. Preamble elements

2. Answer any 3(three) questions:

1×3=3

- i) Define PSTricks.
- ii) Write the command to insert abstract in Latex document.
- iii) Write the mathematical expression of the given equation  $\sum_{n=1}^5 n^3$
- iv) Define Container tag in HTML.
- v) What is the purpose of <caption> tag in HTML.

3. Answer any 4(four) from the following:

2×4=8

- i) Write two important features of Latex.
- ii) Define multi-line expressions. Create a Latex document to produce the given output.

$$e^x = \frac{x^0}{0!} + \frac{x^1}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$$

- iii) What are the three types of environments used in Latex? Explain any one of them.
- iv) Create a LaTeX document to display the given format.

1. A<B
2. A<sup>2</sup>+B<sup>2</sup>
3. A/B

v) Create a Latex document to get the given output:

My Latex Document  
BA/ BSC 3rd Sem Student  
01-01-01

4. Answer any 4(four) from the following:

4×4=16

i) X and Y are two square matrices, Z is the sum of X and Y. Create a Latex document to get the sum of the two matrices.

ii) Create a Latex document to plot the graph  $\cos x$  and  $\sin x$ .

iii) Create a table in Latex with the following data:

1	$y^2 - 3x + 2y + 8 = 0$
2	$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$
3	$y = px + \sqrt{b^2 + a^2p^2}$
4	$y = \text{Sin}\alpha + a\text{Sec}\alpha$

iv) Create a Latex document to insert any figure with caption.

v) Create an HTML page containing four bulleted list and four numbered list.

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