Name of the Program: Computer Algebra System and Use of Software

Total marks: 100 (Theory: 50, Practical: 30, Internal Assessment: 20)

Course Objectives: The purpose of this course is to familiarize students with the mathematical typesetting skills LaTeX and to introduce to Mathematica for some basic mathematical calculations.

Course Outcome: After studying the course the student will be able to:

i. To impart the vital skills and foundational knowledge of computational mathematics.
ii. Create LaTeX documents containing mathematical expressions, graphics, tables.
iii. Perform basic mathematical calculations, plot graphs, make tables.

Unit-1: Introduction to Mathematica (25 Marks, 15 Hours)

Numerical calculation by Mathematica, Plotting of graph, Making of table, Algebra of matrices with solutions.

Unit-2: Introduction to LaTeX (25 Marks, 15 Hours)

Creation of a LaTeX document, Mathematical typesetting: Math mode, Math symbols, Math functions, Arrays, Multi-line expressions; Graphics, Tables.

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