

ST. ALOYSIUS (AUTO) COLLEGE, JABALPUR

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE

COMPUTATION BY MATHEMATICA SOFTWARE

S. No.	Title	Maximum Marks	Minimum Marks
I	MATHEMATICA-Theory	50	20
II	MATHEMATICA-Practical	50	20

Note: Total duration of the course is 30 contact hours.

M. Dhruv

Handwritten
26/7/24.

Roimani

Ashwani

Preeti

AL

MD

ST. ALOYSIUS (AUTO) COLLEGE, JABALPUR

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THEORY

Maximum Marks: 50

Time: 2 hours

Minimum Marks: 20

MODULE I – Introduction to Mathematica - Basics , Structure of Mathematica, Mathematica Kernel , Expression Input and Output. Interactive Use of Mathematica, Symbolic calculations , Numerical Calculations.

MODULE II – Mathematics with Mathematica - Algebra , Factoring and Expanding Polynomials , Finding Roots of Polynomials with Solve and NSolve , Solving Equations

MODULE III – Plotting functions of two variables with plot 3D, Linear Algebra, Tensors and Arrays , Matrices Entering and editing matrices , Performing Gaussian Elimination , Matrix Operations

REFERENCES:-

1. Bruce F. TorrenceEve A. Torrence, TheStudent's Introduction toMathematica ®A Handbook forPrecalculus, Calculus, and Linear Algebra,Second edition(USA, New Yark:Cambridge University Press,2009), Page No.16-44,298-310,40-43
2. Kenneth Shiskowski and Karl Frinkle, Principles of Linear Algebra with Mathematica.(Hoboken, New Jersey: John Wiley & Sons, 2011), Page No.1-96,147- 194,195-250,251-332,335-380

M. Dhobe

Handwritten
26/7/24

① Roman

Jan

Lucia

Jalana

M

AL

ST. ALOYSIUS COLLEGE(AUTO), JABALPUR
DEPARTMENT OF MATHEMATICS
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COMPUTATION BY MATHEMATICA SOFTWARE
PRACTICAL

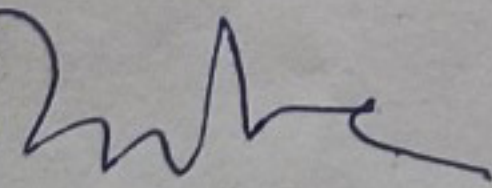
Maximum Marks: 50

Time: 2 hours

Minimum Marks: 20

List of Practicals:

1. Introduction and structure of Mathematica.
2. Kernel and Input-Output Expression.
3. Symbolic and Numerical Calculations using Mathematica.
4. Functions and Graphics.
5. Algebra

M. D. 

Mandvi
26/7/24.

Rhimani

Jorlans

Pruthi

S'ain

MD

AL