

## Mathematics Practical

Semester : I                      Subject Code: **BSP21511**      3 scilab + 6 'C' Programming

**Total number of practicals = 18**

### Scilab

#### Practical – I

Introduction to scilab.

Basic commands :

Matrix as a vector, algebra on matrices, transpose of a matrix, determinant, inverse, size, length, diagonal, trace, help, clean.

#### Practical – II

Matrices commands :  $A(i, :)$ ,  $A(:, j)$ ,  $A(i, j)$

Special types of matrices : eye, Zeros, ones, rand

Special symbols : %pi, %e, %i

Polynomial: Poly commands and root command.

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Prof. Anil Khairnar

Mr. Sachin Suresh Sashital

Ms. Chetna Rajput

Prof. Gitanjali Phadnis

Prof. Vrushali Paranjpe

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*S.S. Sashital*

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*G.M. Phadnis*

*Vrushali*



### Practical – III

Introduction to loops : 'if', 'for'

Simple programs on console without using function : even / odd, generate table, Fibonacci, area of circle.

### ' C ' Programming

#### Practical – IV

To find the pair of points which are farthest and nearest apart.

#### Practical – V

Nearest neighbour of every point in the given set of Points.

#### Practical – VI

Sorting of points w.r.t an oblique line in the plane.

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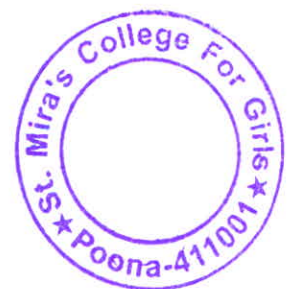
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### Practical – VII

Sorting of points w.r.t rectangle whose sides are parallel to coordinate axes.

### Practical – VIII

Sorting of points w.r.t polygon.

### Practical – IX

Sorting of points w.r.t. parallelepiped whose sides are parallel to the co-ordinate axes.

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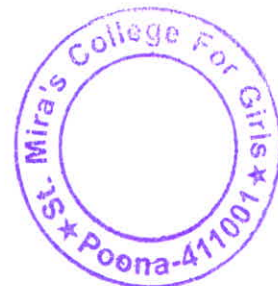
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## Mathematics Practical

Semester : II

Subject Code: BSP21511 3 scilab + 6 'C' Programming

### ' C ' Programming

#### Practical – I

Area of convex polygon.

#### Practical – II

Intersection of two line segments.

#### Practical – III

Intersection of line with a polygon.

#### Practical –IV

Problems based on Fermat's theorem.

#### Practical – V

Problem based on Euclidean algorithm.

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## Practical – VI

To find LCM using formula.

## Scilab

## Practical – VII

Revision of scilab and Ceaser cipher encoding in scilab  
(shifting by 3).

Define function using deff command.

## Practical – VIII

To generate graphs in 2D and 3D.

Geometrical interpretation of Rolle's theorem and LMVT using graphs.

## Practical – IX

Solving system of linear equations ( linsolve, A / B)

To find Eigen values, and Eigen Vectors.

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