R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's **RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce**)
Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.
Website: www.rjcollege.edu.in   Email: rjcollege@rjcollege.edu.in   Tel No: +91 22 25151763   Fax No: +91 22 25150957
College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956
Affiliated to UNIVERSITY OF MUMBAI II NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

15/06/ 2021

NOTICE

Department of Mathematics

The department is organizing a value added course on **"Introduction to Scilab"** during June 22 – July 04, 2021 through online mode. The resource person for the course is Mr. Ajaykumar Shukla, Department of Mathematics, Ramniranjan Jhunjhunwala College, Ghatkopar (W), Mumbai.

Registration Link: https://forms.gle/pvbALQRCmthKHPFH9

Mary Jessy

Head,

Department of Mathematics

PRINCIPAL
RAMNIRANJAN JHUNJHUNWALA COLLEGE
OF ARTS, SCIENCE & COMMERCE (AUTONOMOUS)
Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

2019: Star College Status by DBT
2008: Best College by University of Mumbai   2010: IMC RBNQ Award 'Performance Excellence' for the year 2009
2011: 'Best Teacher Award' by Government of Maharashtra 2013: DST-FIST   2014: DBT STAR College
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Flyer of a Value-added course on Scilab

Hindi Vidya Prachar Samiti's
Ramniranjan Jhunjhunwala College (Autonomous),
Ghatkopar, Mumbai-400 086

Department of Mathematics

Organizes a Value Added Course on
Introduction to Scilab
By
Mr. Ajaykumar Shukla
(Asst. Professor, Department of Mathematics, R J College)

DATE: *June 22 - July 04, 2021*

Registration Link: https://forms.gle/pvbALQRCmthKHPFH9

PRINCIPAL
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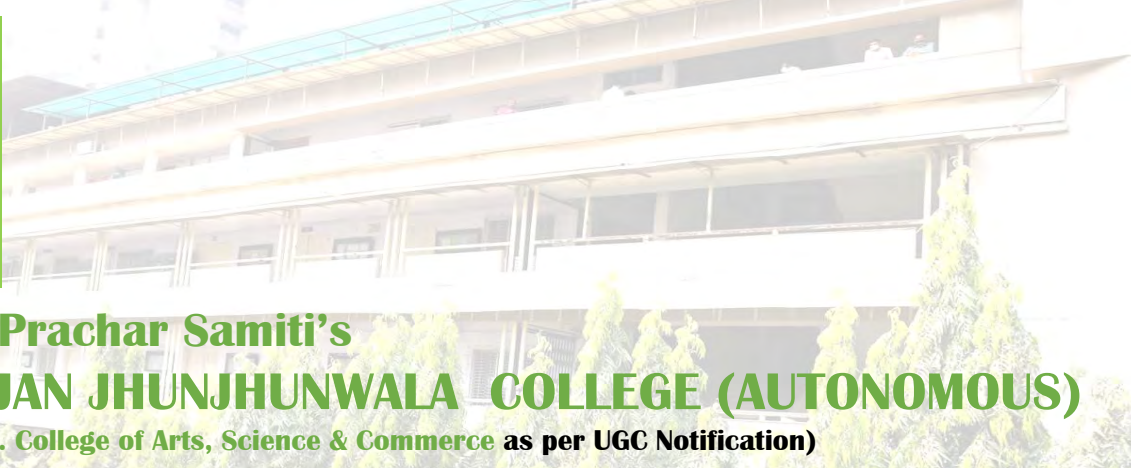## Knowledge is all Ambrosia

C

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A

CERTIFICATE COURSE IN

Introduction

to

SCI LAB

ABOUT US

Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjhunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.I., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccredited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai. The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.

Course Code: RJMATC02

Duration: 30 hours

Credits : 02

LEARNING OUTCOME

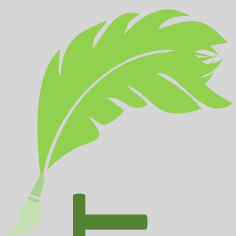**At the end of the course participants will be able to**

➤ Understand the various Software alternatives.

➤ Learn about Arrays and Vectors Operation

➤ Create 2D Plotting and plotting multiple plots in same graph.

➤ Understand Loops and Clause.

COURSE CONTENT

INTRODUCTION TO SCILAB Introduction to Numerical Computing Various Software Alternatives History Installation Workspace Command Prompt Variable Browser SciNotes

Working with Scilab Files Formatting Command Prompt Display Operator Precedence Variable Browser Window Clearing Variables Comments Predefined Constants Common Mathematical Functions Variable Assignment Operator = Naming Conventions for Variables Global and Local Variables List of Variables Data Types Numerical Data How to Store Floating Point Numbers Formatted Display of Numbers Boolean Data Strings

WORKING WITH ARRAYS Introduction Arrays and Vectors Operations on Arrays and Vectors Elementwise Operations Matrix Multiplication Inverse of Matrices det() rank() trace() meshgrid, ndgrid Magnitude of a Vector Random Matrix, Using Indices to Make New Vectors Slicing Appending Rows and Columns Deleting a Row and/or Column of a Matrix Concatenation along a Dimension Logical Operations on Arrays Automatic Generation of Vectors Linearly Spaced Vectors Logarithmically Spaced Vectors Matrix Manipulations Scaling a Matrix Reshaping a Matrix Special Matrices Upper and Lower Triangular Matrices Ones and Zeros Matrices Diagonal Matrices Special Matrices Mathematical Matrix Operations Dot Products Cross Products

PLOTTING Introduction 2D Plotting plot(x, y) plot2d(), plot2d2(), plot2d3(), and plot2d4() polarplot() Plotting Multiple Plots in the Same Graph Plotting Multiple Plots Separately 3D Plots

LOOPS AND CLAUSE introduction Loops while Infinite Loops for if-else, if-else

Continuous Evaluation

ASSESSMENT

MEDIUM OF INSTRUCTION English

100 MARKS PASSING **40**

WHO SHOULD DO IT?   **Under-graduate student**

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Capacity development and skills enhancement activity

(Awareness of trends in technology)

REPORT

Name of the Activity :- Value-added course on 'Introduction to Scilab'

Resource Person:-Mr. Ajaykumar Shukla, Department of Mathematics, Ramniranjan Jhunjhunwala College, Ghatkopar (W), Mumbai.

Brief Report :- Scilab is free and open-source software for numerical computation providing a powerful computing environment for engineering and scientific applications. It has a high-level programming language allowing access to advanced data structures, 2D and 3D graphical functions. This course will enable learners to enhance their computational ability in mathematics. Therefore, department of mathematics organized a value-added course on 'Introduction to Scilab'. The resource person of this course was Mr. Ajaykumar Shukla. The content of the course included: Basics of scilab environment and programming; Using complex numbers, vectors, polynomials and matrices; 2D and 3D plotting. E-certificates were given to the participants based on their participation in tests and assignments.

Number of beneficiary:- 13 participants.

Date:- 22 June to 04 July 2021 **Time**:-04:00 pm to 05:00 pm (15 hours)

Event Platform: Online ZOOM

Head,

Department of Mathematics

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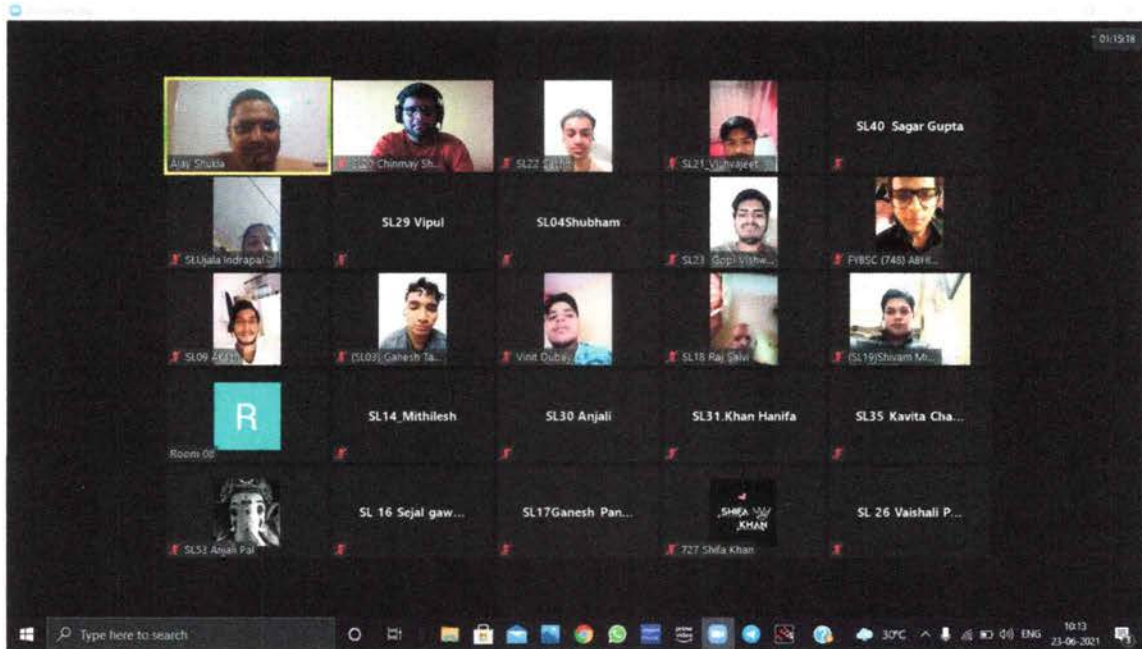**2019: Star College Status by DBT**
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Screenshots of a Value-added course on Scilab

input statements

for taking values interactively while executing a program, we can use the following:

a = input("some message")

a = scanf("%d")   (if you know C programming)

a=x_matrix("some message", zeros(m, n))

This command will create a dialog box containing a zero matrix of size m by n and it can be edited. The resulting matrix will be stored in the variable a.

(They may not work in cloud.scilab.in)

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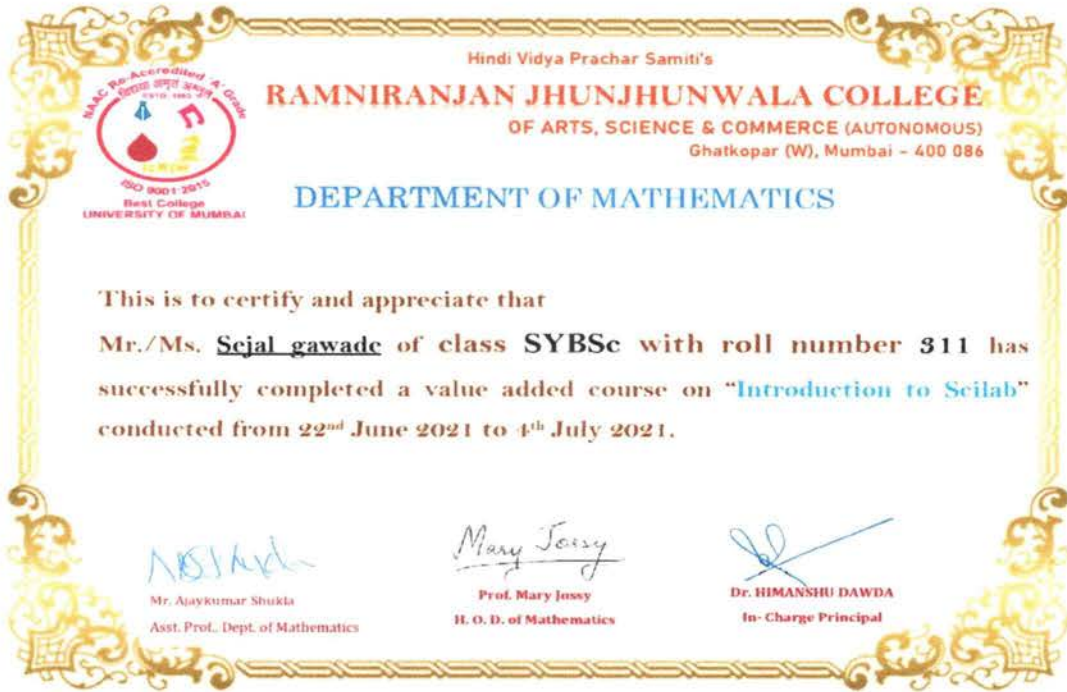(Hindi Vidya Prachar Samiti's **RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce**)

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List of Participants (Value-added course on Scilab)

Sr. No.	Name	Class	Roll No.
1	Akash Upadhyay	TYBSc Mathematics	328
2	Mithilesh Rajdatta Shinde	SYBSc	227
3	Sejal Gawade	SYBSc	311
4	Raj Salvi	TYBSc Statistics	427
5	Chinmay Shinde	SYBSc	343
6	Vishvajeet Mahendra Rai	SYBSc	340
7	Gopi Panchamram Vishwakarma	SYBSc	232
8	Ansari Mohd Sufiyan Sanaullah	TYBSc Statistics	403
9	Ujala Indrapal Yadav	SYBSc	238
10	Dwivedi Vipul	TYBSc Mathematics	307
11	Sagar Shivcharan Gupta	TYBSc Mathematics	309
12	Vivek Vishwas Nikam	SYBSc	217
13	Pal Anjali Mohanlal Suman	TYBSc Physics	201

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Certificate of value-added course on Scilab

Hindi Vidya Prachar Samiti's

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DEPARTMENT OF MATHEMATICS

This is to certify and appreciate that

Mr./Ms. **Sejal gawade** of class **SYBSc** with roll number **311** has successfully completed a value added course on "Introduction to Scilab" conducted from 22nd June 2021 to 4th July 2021.

Mr. Ajaykumar Shukla
Asst. Prof., Dept. of Mathematics

Prof. Mary Jossy
H. O. D. of Mathematics

Dr. HIMANSHU DAWDA
In- Charge Principal

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