



Date-18/12/2021



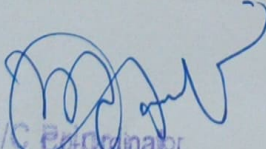
To,  
The Principal,  
Nutan Mahavidyalaya, Selu  
Dist. Parbhani.

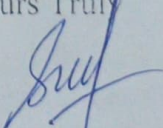
Subject : Organization of Certificate Course in Problem Solving using Matlab.

Respected Sir,

As per the subject highlighted above I, on the behalf of Department of Mathematics, hereby, feels glad to convey you that we are planning to organize thirty fivehours Certificate Course in Problem Solving using Matlab for all the interested students of our institution. The course will run from 04/ 01/2022 to 14/02/2022.

I request you to permit us for the successful organization of this course.

  
I/C Principal  
Nutan Mahavidyalaya (MS)  
Sailu, Dist. Parbhani

Yours Truly  
  
Mr. S.B. Garud  
Nutan Mahavidyalaya, Selu (MS)



# NUTAN MAHAVIDYALAYA SAILU, DIST. PARBHANI

## Certificate Course in Mathematics

Academic Year-2021-2022

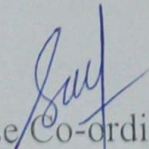
### NOTICE


All students of B.Sc. First Year, Second Year and Third Year are hereby informed that an certificate course on Problem Solving using Matlab for B.Sc. FY,SY and TY is scheduled during 03/ 01/2022 to 14/02/2022 with the objective to generate local employment opportunities and promote Matlab software use. The department provides training on Problem Solving using Matlab

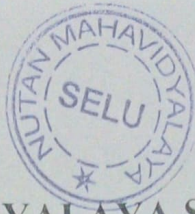
The course mentioned above is scheduled as follows:

Date	Time	Course	Faculty	Room No
03/ 01/2022 to 14/02/2022	8.30 to 9.30 AM	Problem Solving using Matlab.	Mr.S.B.Garud Mr.V.B.Patare	Mathlab

Students interested in attending the course should register their name to Mr. S. B. Garud before 30/12/2021

  
Course Co-ordinator  
Mr. S. B. Garud

  
I/C Principal  
Nutan Mahavidyalaya  
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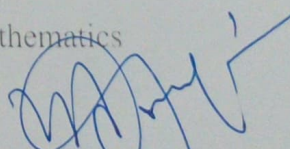
Department of Mathematics

Academic Year-2021-2022

## INAUGRAL FUNCTION OF CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

On 04/ 01/2022

- Introduction and Welcome- Mr. V.B. Patare  
(Head Department of Mathematics)
- Introduction of the guest- Mr. S.B. Garud.
- Chief Guest- **Dr. V.K. Kothekar**  
(Joint Secretary Nutan vidyalaya shikshan  
sanstha)
- President of Programme—Dr. M.S. Shinde  
(I/C Principal Nutan Mahavidyalay sailu.)
- Anchoring- Tehere Prajakta Pramodrao
- Vote of Thanks- Rajurkar pooja
- Venue- Department of Mathematics
- Time- 10.00 am

  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



# NUTAN MAHAVIDYALAYA SAILU, DIST. PARBHANI

## DEPARTMENT OF MATHEMATICS

2021-2022

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

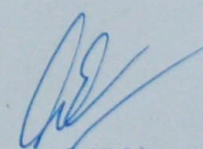
#### Introduction

This course provides, Introduction to MATLAB: MATLAB Programming language, Built-in Functions, Graphics, computations, External interface and Tool boxes. Basics of MATLAB: MATLAB windows, desktop, command window, workspace, Figure and Editor Windows, Input-output, File types, platform dependence, Printing. Programming in MATLAB: Scripts and 14 functions. Script files, function files: Executing of function, writing good functions, sub functions, compiled functions, Interactive computation :- (MATRICES) Matrices and Vectors, input, indexing, matrix manipulation, creating vectors. Matrix and Array operations, Arithmetic operations, Relational operations, logical operations, Elementary math functions, matrix functions, character string. Command line Functions, Inline functions, Anonymous functions .Built-in functions, finding the determinant of matrix, finding eigen-values and eigenvectors. Saving and loading Data, Importing data files, recording a session. Applications: - Linear Algebra. Solving a linear system, Gaussian elimination, Finding eigenvalues and eigenvectors, matrix factorization, advanced topics. Section 3: Plotting of Graphs: - Plotting simple Graphs. Graphics: - Plotting of 2D graphs, Using subplot for multiple graphs, 3DPlots (Drawing of different Geometrical objects), saving and Printing

The MATLAB technical computing environment. No prior programming experience or knowledge of MATLAB is assumed. Themes of data analysis, visualization, modeling, and programming are explored throughout the course.

Topics include:

- Introduction to MATLAB
- Programming in MATLAB
- Plotting of Graphs
- Working with the MATLAB user interface
- Entering commands and creating variables
- Analyzing vectors and matrices
- Visualizing vector and matrix data



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- Working with data files
- Working with data types
- Automating commands with scripts
- Writing programs with branching and loops
- Writing functions

### **Aims and objective of Problem Solving using Matlab**

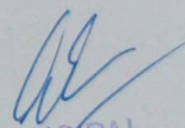
- ❖ Reading data from files
- ❖ Saving and loading variables
- ❖ Plotting data
- ❖ Customizing plots
- ❖ Exporting graphics for use in other applications
- ❖ Entering commands
- ❖ Creating numeric and character variables
- ❖ Making and annotating plots
- ❖ Getting help
- ❖ Creating and running live scripts
- ❖ Creating and manipulating matrices
- ❖ Performing calculations with matrices
- ❖ Calculating statistics with matrix data
- ❖ Visualizing matrix data

### **Learning out come**

- ❖ To learn features of MATLAB as a programming tool.
- ❖ To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems.
- ❖ To understand MATLAB graphic feature and its applications.
- ❖ To use MATLAB as a simulation tool.

### **Teaching methodologies**

- Total hours:35
- Attendance:80% of attendance is compulsory.
- Exam pattern:offline.

  
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## Syllabus

### Unit I

Introduction to MATLAB 09 Hrs.

- The MATLAB Environment
- MATLAB Basics – Variables, Numbers, Operators, Expressions, Input and output.
- Vectors, Arrays – Matrices

### Unit II

MATLAB Functions 05 Hrs.

- Built-in Functions
- User defined Functions

### Unit III

Graphics with MATLAB 05 Hrs.

- Files and File Management – Import/Export
- Basic 2D, 3D plots
- Graphic handling

### Unit IV

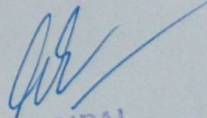
Programming with MATLAB 09 Hrs.

- Conditional Statements, Loops
- MATLAB Programs – Programming and Debugging.
- Applications of MATLAB Programming.

### Unit V

Mathematical Computing with MATLAB 07 Hrs.

- Algebraic equations
- Basic Symbolic Calculus and Differential equation

  
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## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

#### TIMETABLE

Date	Time	Course	Faculty	Room No
03/ 01/2022 to 14/02/2022	8.30 to 9.30 AM	PROBLEM SOLVING USING MATLAB	Mr. V. B. Patare Mr. S.B., Garud	19

#### Examination Pattern and Marks distribution

- Final exam Questions are to be set from entire syllabus.
- The internal assessment marks shall be awarded on the basis of assignment and Seminar.
- A minimum of 40 % score will be required separately to pass the theory and internal assessment.

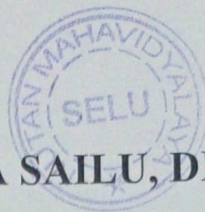
Sr. No.	Theory/Int. Assessment	Total marks	Min. marks for passing
1.	Theory	40	16
2.	Assignment	20	08
3	Seminar	15	06
4	Total	75	30

#### Grade-

1-65-75=O 2-60-64=A

3-55-60=B 4-50-54=C

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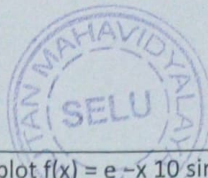
## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

#### Time Table

Sr.No	Date	Time	Topic	Name of Faculty
1	03/01/2022	8.30 to 9.30	Introduction to MATLAB	Mr. S.B. Garud
2	04/01/2022	8.30 to 9.30	Programming in MATLAB	Mr. S.B. Garud
3	05/01/2022	8.30 to 9.30	Plotting of Graphs	Mr. S.B. Garud
4	06/01/2022	8.30 to 9.30	Working with the MATLAB user interface	Mr. S.B. Garud
5	07/01/2022	8.30 to 9.30	Entering commands and creating variables	Mr. S.B. Garud
6	08/01/2022	8.30 to 9.30	Analyzing vectors and matrices	Mr. S.B. Garud
7	10/01/2022	8.30 to 9.30	Visualizing vector and matrix data	Mr. S.B. Garud
8	11/01/2022	8.30 to 9.30	Working with data files	Mr. S.B. Garud
9	12/01/2022	8.30 to 9.30	Working with data types	Mr. S.B. Garud
10	13/01/2022	8.30 to 9.30	Automating commands with scripts	Mr. S.B. Garud
11	14/01/2022	8.30 to 9.30	Writing programs with branching and loops	Mr. S.B. Garud
12	15/01/2022	8.30 to 9.30	Writing functions	Mr. S.B. Garud
13	17/01/2022	8.30 to 9.30	To enter the Matrix A and pick-out following entries from it	Mr. S.B. Garud
14	18/01/2022	8.30 to 9.30	To find the transpose a matrix.	Mr. S.B. Garud
15	19/01/2022	8.30 to 9.30	To find $A + B$ and $B + A$ and to verify whether the matrix addition is commutative.	Mr. S.B. Garud
16	20/01/2022	8.30 to 9.30	For a square matrix A to find $A^2, A^3, A^4, A^5$	Mr. S.B. Garud
17	21/01/2022	8.30 to 9.30	To find the determinant of a square matrix.	Mr. S.B. Garud
18	22/01/2022	8.30 to 9.30	To find the rank of the matrices.	Mr. S.B. Garud
19	24/01/2022	8.30 to 9.30	To plot the contours of $z = \cos x \cos y \exp(x^2 + y^2)$ over the default domains. 19. To plot the surface for $z = -5(1+x^2+y^2)$ over the domain $ x  < 3$ and $ y  < 3$	Mr. S.B. Garud
20	25/01/2022	8.30 to 9.30	To plot $r(\theta) = 1 + 2 \sin(2\theta)$ for $0 < \theta < 2\pi$	Mr. S.B. Garud

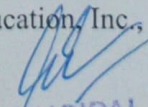
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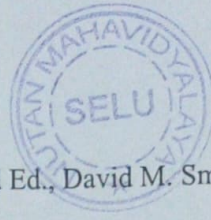


21	27/01/2022	8.30 to 9.30	To plot $f(x) = e^{-x} 10 \sin x$ for $x$ between 0 and 20.	Mr. S.B. Garud
22	28/01/2022	8.30 to 9.30	To find the eigen vectors of a square matrix	Mr. S.B. Garud
23	29/01/2022	8.30 to 9.30	To find the characteristic polynomial of a square matrix	Mr. S.B. Garud
24	31/01/2022	8.30 to 9.30	To plot $f(x) = e^{-x} 10 \sin x$ for $x$ between 0 and 20	Mr. S.B. Garud
25	01/02/2022	8.30 to 9.30		Mr. S.B. Garud
26	03/02/2022	8.30 to 9.30	To find the inverse of a square matrix	Mr. S.B. Garud
27	04/02/2022	8.30 to 9.30	To solve the system of linear equations whose matrix equation.	Mr. S.B. Garud
28	05/02/2022	8.30 to 9.30	For two matrices A and B, confirmable for multiplication from both sides, to find AB and BA.	Mr. S.B. Garud
29	07/02/2022	8.30 to 9.30	To verify the associativity of matrix addition	Mr. S.B. Garud
30	08/02/2022	8.30 to 9.30	To verify both left distributive law and right distributive law	Mr. S.B. Garud
31	09/02/2022	8.30 to 9.30	To find the co of a matrix.	Mr. S.B. Garud
32	10/02/2022	8.30 to 9.30	To plot multiple graphs $y_1 = \sin t$ , $y_2 = t$ , $y_3 = 1 - t^3$ , $y_4 = t^5$	Mr. S.B. Garud
33	11/02/2022	8.30 to 9.30	To plot $x = e^{-t}$ , $y = t$ , $0 \leq t \leq 2\pi$ .	Mr. S.B. Garud
34	12/02/2022	8.30 to 9.30	To plot $f(t) = t \sin t$ , $0 \leq t \leq 10\pi$ .	Mr. S.B. Garud
35	14/02/2022	8.30 to 9.30	To plot the surface $z = xy(x^2 - y^2)$ by computing the values of $z$ over $50 \times 50$ grid on	Mr. S.B. Garud

## References

1. "A Guide to MATLAB - for Beginners and Experienced Users", 2nd Ed., Brian R. Hunt, Ronald L. Lipsman, Jonathan M. Rosenberg, Cambridge University Press, (2006).
2. "Essentials of MATLAB Programming", 2nd Ed., Stephen J. Chapman, Cengage Learning, (2009).
3. "MATLAB Demystified", David McMahan, The McGraw-Hill Companies, (2007).
4. "MATLAB® for Engineers", 3rd Ed., Holly Moore, Pearson Education, Inc., (2012).

  
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5. "Engineering computation with MATLAB", 2nd Ed., David M. Smith, Pearson Education, Inc., (2010).

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**DEPARTMENT OF MATHEMATICS**

**CERTIFICATE COURSE IN PROBLEM SOLVING USING  
MATLAB**

**Question paper**

Total Marks-40

Time-1.30 min

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Q.1 Write note on Introduction on matlab 15 Marks

OR

Q.1 Describe the Plotting of Graphs 15 Marks

Q.2 Write a note on different matrix outputs 15 Marks

OR

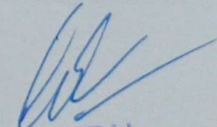
Q.2 Write a note on the eigen vectors of a square matrix 15 Marks

**Q.3 Attempt any TWO of the following 10 Mark**

i) To solve the system of linear equations whose matrix equation

ii) To plot  $x = e^{-t}$ ,  $y = t$ ,  $0 \leq t \leq 2\pi$ .

iii) To plot multiple graphs  $y_1 = \sin t$ ,  $y_2 = t$ ,  $y_3 = 1 - t^3$ ,  $y_4 = t^5$

  
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**DEPARTMENT OF MATHEMATICS**

**CERTIFICATE COURSE IN PROBLEM SOLVING USING  
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**Assignment- I**

**Total Marks-10**

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**Attempt any ONE of the following**

**Q.1 Write a different commands on matlab**

**Q.2 Write a note on matrix multiplication is commutative**

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**CERTIFICATE COURSE IN PROBLEM SOLVING USING  
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**Assignment- II**

**Total Marks-10**

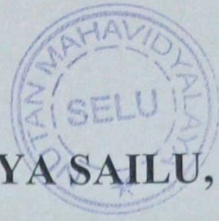
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**Attempt any ONE of the following**

**Q.1 Write a note how to plot graph using matlab**

**Q.2 Write a note on Programming in MATLAB**

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## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

#### Seminar Topic

Total Marks-15

Sr.No	Student Name	Class	Seminar Title	Signature
1	THORAT POONAM VYANKATESH	B.Sc.F.Y.	Introduction to MATLAB	Poonam
2	AALSHE RITU KASHINATHRAO	B.Sc.F.Y.	Programming in MATLAB	ayf
3	ANSARI SIMA TAJIM MD MASUD	B.Sc.F.Y.	Plotting of Graphs	ajf
4	AWATE GOVIND BABASAHEB	B.Sc.F.Y.	Working with the MATLAB user interface	Govind
5	BIDWE SNEHAL JAGANNATH	B.Sc.F.Y.	Entering commands and creating variables	Snehal
6	CHAUS IRFAN MAISAN	B.Sc.F.Y.	Analyzing vectors and matrices	Irfan
7	CHAVAN VAISHNAVI ARJUNDING	B.Sc.S.Y	Visualizing vector and matrix data	Chavan
8	DEV DHE SAKSHI MUKUNDRAO	B.Sc.S.Y	Working with data files	Sakshi
9	DHAKARGE GOVIND BABASAHEB	B.Sc.S.Y	Working with data types	Govind
10	HOGA RADHA BABASAHEB	B.Sc.S.Y	Automating commands with scripts	Radha
11	JOSHI MAYURI GOPALRAO	B.Sc.S.Y	Writing programs with branching and loops	Mayuri

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12	KADAM VIDHYA PARMESHWAR	B.Sc.S.Y	Writing functions	<i>[Signature]</i>
13	PAWAR SHARDA VITTHALRAO	B.Sc.S.Y	EnterinGcommands	<i>sharda</i>
14	RAJURKAR POOJA SHYAM	B.Sc.S.Y	Creating numeric and character variables	<i>[Signature]</i>
15	RATHOD AKASH RAMESH	B.Sc.T.Y	Making and annotating plots	<i>[Signature]</i>
16	SHINDE DEEPA UTTAMRAO	B.Sc.T.Y	Getting help	<i>[Signature]</i>
17	UGLE PRIYANKA MUKTIRAM	B.Sc.T.Y	Creating and running live scripts	<i>[Signature]</i>
18	GAIKWAD PAVAN INDROBA	B.Sc.T.Y	Creating and manipulating matrices	<i>[Signature]</i>
19	LIPNE MOHAN VISHNU	B.Sc.T.Y	Performing calculations with matrices	<i>[Signature]</i>
20	LIPNE PAWAN BABASAHEB	B.Sc.T.Y	Calculating statistics with matrix data	<i>[Signature]</i>

*[Signature]*  
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DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE IN PROBLEM SOLVING USING  
MATLAB

Presentee Report of Seminar

Sr.No	Student Name	Class	Signature
1	THORAT POONAM VYANKATESH	B.Sc.F.Y.	<i>Poonam</i>
2	AALSHE RITU KASHINATHRAO	B.Sc.F.Y.	<i>ay</i>
3	ANSARI SIMA TAJIM MD MASUD	B.Sc.F.Y.	<i>ay</i>
4	AWATE GOVIND BABASAHEB	B.Sc.F.Y.	<i>Govind</i>
5	BIDWE SNEHAL JAGANNATH	B.Sc.F.Y.	<i>sn</i>
6	CHAUS IRFAN MAISAN	B.Sc.F.Y.	<i>Irfan</i>
7	CHAVAN VAISHNAVI ARJUNDING	B.Sc.S.Y	<i>vaishnavi</i>
8	DEVTHE SAKSHI MUKUNDRAO	B.Sc.S.Y	<i>Sakshi</i>
9	DHAKARGE GOVIND BABASAHEB	B.Sc.S.Y	<i>Govind</i>
10	HOGRE RADHA BABASAHEB	B.Sc.S.Y	<i>Radha</i>
11	JOSHI MAYURI GOPALRAO	B.Sc.S.Y	<i>Mayuri</i>
12	KADAM VIDHYA PARMESHWAR	B.Sc.S.Y	<i>Vidhya</i>
13	PAWAR SHARDA VITTHALRAO	B.Sc.S.Y	<i>Sharda</i>
14	RAJURKAR POOJA SHYAM	B.Sc.S.Y	<i>Pooja</i>

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15	RATHOD AKASH RAMESH	B.Sc.T.Y	
16	SHINDE DEEPA UTTAMRAO	B.Sc.T.Y	
17	UGLE PRIYANKA MUKTIRAM	B.Sc.T.Y	
18	GAIKWAD PAVAN INDROBA	B.Sc.T.Y	
19	LIPNE MOHAN VISHNU	B.Sc.T.Y	
20	LIPNE PAWAN BABASAHEB	B.Sc.T.Y	

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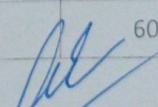
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## DEPARTMENT OF MATEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

#### Result

Sr.No	Name of the student	Marks Obtained			Total Mark	Grade
		Theory 40Marks	Assignment 20 Marks	Seminar 15 Marks		
1	THORAT POONAM VYANKATESH	32	18	14	64	A
2	AALSHE RITU KASHINATHRAO	35	19	12	66	O
3	ANSARI SIMA TAJIM MD MASUD	34	18	15	67	O
4	AWATE GOVIND BABASAHEB	33	14	14	61	A
5	BIDWE SNEHAL JAGANNATH	28	15	15	58	B
6	CHAUS IRFAN MAISAN	36	15	12	63	A
7	CHAVAN VAISHNAVI ARJUNDING	34	16	12	62	A
8	DEV DHE SAKSHI MUKUNDRAO	29	18	14	61	A
9	DHAKARGE GOVIND BABASAHEB	28	17	12	57	B
10	HOGGE RADHA BABASAHEB	29	19	15	63	A
11	JOSHI MAYURI GOPALRAO	35	18	12	65	O
12	KADAM VIDHYA PARMESHWAR	33	19	15	67	O
13	PAWAR SHARDA VITTHALRAO	36	18	12	66	O
14	RAJURKAR POOJA SHYAM	35	18	15	68	O
15	RATHOD AKASH RAMESH	29	17	14	60	A

  
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16	SHINDE DEEPA UTTAMRAO		19	15	63	A
17	UGLE PRIYANKA MUKTIRAM	29	20	13	57	B
18	GAIKWAD PAVAN INDROBA	24	20	13	68	O
19	LIPNE MOHAN VISHNU	35	20	15	71	O
20	LIPNE PAWAN BABASAHEB	36	19	15	70	O

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# NUTAN MAHAVIDYALAYA SAILU, DIST. PARBHANI

## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

#### Attendance

Sr. No	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Name of Student																	
1	THORAT POONAM VYANKATESH	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
2	AALSHE RITU KASHINATHRAO	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
3	ANSARI SIMA TAJIM MD MASUD	A	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
4	AWATE GOVIND BABASAHEB	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p
5	BIDWE SNEHAL JAGANNATH	p	p	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p
6	CHAUS IRFAN MAISAN	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p	p
7	CHAVAN VAISHNAVI ARJUNDING	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A
8	DEVDHE SAKSHI MUKUNDRAO	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
9	DHAKARGE GOVIND BABASAHEB	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
10	HOGE RADHA BABASAHEB	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A
11	JOSHI MAYURI GOPALRAO	p	p	p	A	p	p	p	p	p	p	p	p	p	p	p	p	p
12	KADAM VIDHYA PARMESHWAR	p	p	p	p	p	p	p	p	p	p	p	p	p	p	A	p	A
13	PAWAR SHARDA VITTHALRAO	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
14	RAJURKAR POOJA SHYAM	p	p	p	p	p	A	p	p	p	p	A	p	p	p	p	p	p
15	RATHOD AKASH RAMESH	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
16	SHINDE DEEPA UTTAMRAO	p	p	p	p	p	p	p	p	p	p	p	A	p	p	p	p	p

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani



# NUTAN MAHAVIDYALAYA SAILU, DIST. PARBHANI

## DEPARTMENT OF MATHEMATICS

### CERTIFICATE COURSE IN PROBLEM SOLVING USING MATLAB

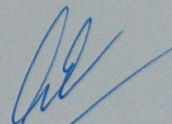
#### Attendance

Sr. No	Date	03 04 05 06 07 08 10 12 14 17 18 19 20 21 22 24 25																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	THORAT POONAM VYANKATESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	AALSHE RITU KASHINATHRAO	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	ANSARI SIMA TAJIM MD MASUD	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	AWATE GOVIND BABASAHEB	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
5	BIDWE SNEHAL JAGANNATH	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
6	CHAUS IRFAN MAISAN	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	A
7	CHAVAN VAISHNAVI ARJUNDING	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	DEVTHE SAKSHI MUKUNDRAO	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	DHAKARGE GOVIND BABASAHEB	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	HOGE RADHA BABASAHEB	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
11	JOSHI MAYURI GOPALRAO	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
12	KADAM VIDHYA PARMESHWAR	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A
13	PAWAR SHARDA VITTHALRAO	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	RAJURKAR POOJA SHYAM	P	P	P	P	P	A	P	P	P	P	A	P	P	P	P	P	P
15	RATHOD AKASH RAMESH	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	SHINDE DEEPA UTTAMRAO	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani



17	UGLE PRIYANKA MUKTIRAM	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P
18	GAIKWAD PAVAN INDROBA	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P
19	LIPNE MOHAN VISHNU	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	
20	LIPNE PAWAN BABASAHEB	P	P	A	P	P	P	P	P	A	P	P	P	P	A	P	

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani



**NUTAN MAHAVIDYALAYA SAILU, DIST. PARBHANI**

**DEPARTMENT OF MATHEMATICS**

**CERTIFICATE COURSE IN PROBLEM SOLVING USING  
MATLAB**

**Feedback from student on certificate course**

Full name of the student: -----

Class:-----

Title of the Certificate course:-----

Name of Department/Committee: -----

Rate the COC by choosing an appropriate option on 5 point scale as shown below.

1. Usefulness Of the Course : 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

2. syllabus of the course: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

3. Course Conduction: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

4. Teaching faculty: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

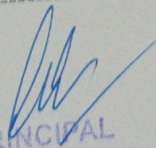
5. Conducted Tests : 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

6. Convenience of time: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

7. Relevance of the course in 21st Century: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

8. Overall impact of the course: 1. Excellent 2. Very Good 3. Good 4. Average 5. Poor

9. Suggestions if-----

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

Signature of student

NUTAN MAHAVIDYALAYA SELU

**CERTIFICATE**  
OF COMPLETION



This is to be certified that

*Thorat poornam vyanktesh.*

*[Signature]*  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using* conducted by Department  
of *Mathematics* from *04/01/22* to *14/01/22* with O/A/B/C/D grade.

*[Signature]*  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

*[Signature]*  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya Selu

*[Signature]*  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani

# NUTAN MAHAVIDYALAYA SELU OF COMPLETION CERTIFICATE



This is to be certified that

..\*.. Adite Rishi Karunodhara

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using method conducted by Department  
of Mathematics from 04/01 to 14/02  
with O/A/B/C/D grade.

Coordinator Certificate  
course

Nutan Mahavidyalaya, Selu (MS)  
Co-Ordinator

IOAC

Director

IOAC

Nutan Mahavidyalaya, Selu

Principal

Nutan Mahavidyalaya  
Selu, Dist. Parbhani

NUTAN MAHAVIDYALAYA SELU  
OF COMPLETION  
CERTIFICATE



This is to be certified that

.....  
Anshu Singh Rajim

PRINCIPAL  
Nutan Mahavidyalaya  
Selu, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matrix conducted by Department  
of Math .....  
from 24/01 to 19/02/22 with O/A/B/C/D grade.

Coordinator Certificate  
Nutan Mahavidyalaya, Selu (MS)

Director  
IQAC  
Nutan Mahavidyalaya, Selu

I/C Principal  
Nutan Mahavidyalaya  
Selu, Dist. Parbhani

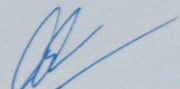
NUTAN MAHAVIDYALAYA SELU

CERTIFICATE  
OF COMPLETION

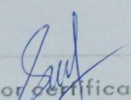


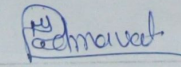
This is to be certified that

Awate Uvinda Babasaheb

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving wing math conducted by Department  
of math from 04/01 to 14/02 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

  
IOAC  
Director  
IOAC  
Nutan Mahavidyalaya, Selu

  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani

NUTAN MAHAVIDYALAYA SELU

CERTIFICATE  
OF COMPLETION



This is to be certified that

*Bidwe Snehal Jagnath*

*[Signature]*  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using Matlab* conducted by Department  
of *Maths* from *04/01* to *14/02* with *O/A/B/C/D* grade.

*[Signature]*  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

*[Signature]*  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

*[Signature]*  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE

OF COMPLETION



This is to be certified that

*Chauhan Irfan Mahran,*

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using methods* conducted by Department  
of *math* from *05/01* to *14/07* with *C* grade.

Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu(MS)

IOAC  
Director  
IGAC  
Nutan Mahavidyalaya, Selu

Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION



This is to be certified that

*Chavan Vashnavi Arjun Singh*

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using matlab* conducted by Department  
of *Math* from *04/01* to *14/01/22* with O/A/B/C/D grade.

Coordinator, certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya Selu(MC)

IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION



This is to be certified that

*Devdhe Sakshi Mukund*

*[Signature]*  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using matlab* conducted by Department  
of *Math* from *01/01* to *15/01/20* with O/A/B/C/D grade.

*[Signature]*  
Coordinator certificate  
course  
Coordinator  
Nutan Mahavidyalaya, Selu (MS)

*[Signature]*  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

*[Signature]*  
Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE

OF COMPLETION



This is to be certified that

*Dhakarge living Babusahab*

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using matlab* conducted by Department  
of *matn* from *04/10* to *11/12* with O/A/B/C/D grade.

Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (M.C.)

IQAC  
Director  
IQAC  
Nutan mahavidyalaya, Selu

Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE

OF COMPLETION



This is to be certified that

*Hoge Radha Babasaheb*

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using matlab* conducted by Department  
of.....*math*.....from *04/01*.....to *14/02/20*.....with O/A/B/C/D grade.

Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

IQAC  
Director  
Nutan Mahavidyalaya, Selu

I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

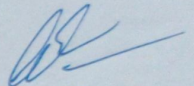
# CERTIFICATE

OF COMPLETION




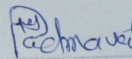
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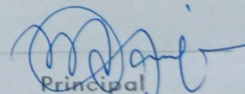
Joshu Mayuri Leopdsao

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matrices conducted by Department  
of math from 01/01 to 14/07 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya Selu(MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION

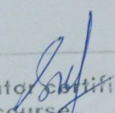


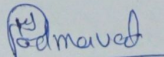
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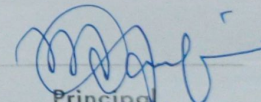
*Kadam Vidya Parmeshwar*

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using matlab* conducted by Department  
of *math* from *01/01/2022* to *15/05/22* with *B*/A/B/C/D grade.

  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



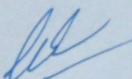
NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION




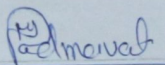
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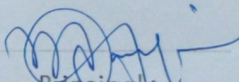
paDar sharda vithalrao

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matlab conducted by Department  
of math from 04.10.14 to 14/01/15 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Nutan Mahavidyalaya, Selu(MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION



This is to be certified that

Rajur puja shyam

*[Signature]*  
Principal  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using math conducted by Department  
of math from 01/01/2024 to 11/12/24 with O/A/B/C/D grade.

*[Signature]*  
Coordinator  
Nutan Mahavidyalaya, Selu (MS)

*[Signature]*  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

*[Signature]*  
Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

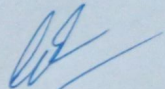
# CERTIFICATE

OF COMPLETION

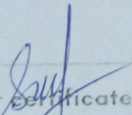


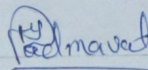
This is to be certified that

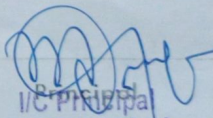
Rathod Akash Ramesh

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matlab conducted by Department  
of math from 04/01 to 14/01/21 with  O/A/B/C/D grade.

  
Coordinator Certificate  
course  
Nutan Mahavidyalaya, Selu (MS)

  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

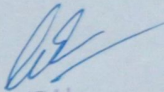
# CERTIFICATE

OF COMPLETION

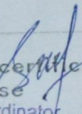


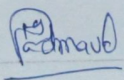
This is to be certified that


Shinde Deepa Uthamrao

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matlab conducted by Department  
of Maths from 06/10/20 to 14/11/20 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu (MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

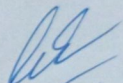
# CERTIFICATE

OF COMPLETION

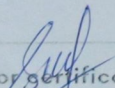


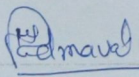
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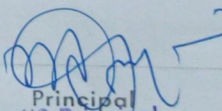
Ugale Priyanka Muktram

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matrices conducted by Department  
of math from 01/10/11 to 14/10/11 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Co-Ordinator  
Nutan Mahavidyalaya, Selu(MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
Principal  
I/C Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani




NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE OF COMPLETION

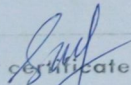


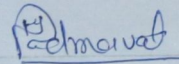
This is to be certified that


Maikad pavan Indruba

  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matlab conducted by Department  
of Math from 01/01 to 14/01 with O/A/B/C/D grade.

  
Coordinator certificate  
course  
Coordinator  
Nutan Mahavidyalaya, Selu (MS)

  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

  
Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE

OF COMPLETION



This is to be certified that

.....Lipne Mohan Vishnu.....

PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
problem solving using matlab conducted by Department  
of.....math.....from 01/01/20 to 14/01/20 with O/A/B/C/D grade.

Coordinator Certificate  
Course  
Coordinator  
Nutan Mahavidyalaya Selu (MS)

IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

TIC Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani



NUTAN MAHAVIDYALAYA SELU

# CERTIFICATE

OF COMPLETION



This is to be certified that

*Lipne pawan Babarheb.*

*[Signature]*  
PRINCIPAL  
Nutan Mahavidyalaya  
SELU, Dist. Parbhani

has successfully completed certificate course entitled as  
*problem solving using math* conducted by Department  
of *math* from *01/01* to *14/01/20* with O/A/B/C/D grade.

*[Signature]*  
Coordinator certificate  
course  
Nutan Mahavidyalaya, Selu

*[Signature]*  
IQAC  
Director  
IQAC  
Nutan Mahavidyalaya, Selu

*[Signature]*  
Principal  
Nutan Mahavidyalaya  
Sailu, Dist. Parbhani