

## MATLAB

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
III	POCMA 3SS	Optional Self Study Paper	Hrs/week	Hrs/Sem	Hrs/week	Hrs/Sem	0	2
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### COURSE OBJECTIVES:

The students will be able to

- Enhance the knowledge about the Basics of MATLAB.
- Understand the concept of Arithmetic Operations in MATLAB
- Know the concept of script files and two dimensional plots.

### COURSE OUTCOMES:

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Understand the concept of elementary math built in function	K2
CO2	Acquire the knowledge of creating an arrays for both one and two dimensional array	K3
CO3	Discuss about the Mathematical Operations with Arrays in MATLAB	K3
CO4	Explore the concept of Script files	K3
CO5	Examine two dimensional plots using graphs	K4

*Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze.*

### MAPPING WITH PROGRAMME OUTCOMES:

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	M	M	S	M
CO2	M	S	M	S	M	S
CO3	S	M	M	S	M	S
CO4	S	M	S	M	M	M
CO5	S	S	M	M	S	M

S- Strong; M – Medium; L – Low

## **UNIT I: STARTING WITH MATLAB**

Starting Matlab- Arithmetic Equations with Scalars – Order of Precedence using Matlab as a calculator – Display Formats – Elementary MATH BUILT IN FUNCTIONS – Defining scalar variables – The Assignment Operator.

## **UNIT II: CREATING ARRAYS**

Creating a one dimensional array (Vector) - Creating a two dimensional array (Matrix) – The Zeros ones and eye commands – Notes about variables in MATLAB – The Transpose Operator – Array addressing – Vector – Matrix.

## **UNIT III: MATHEMATICAL OPERATIONS WITH ARRAYS**

Addition and Subtraction – Array Multiplication – Array Division -Element- by -Element Operations – Using arrays in MATLAB built in math.

## **UNIT IV: SCRIPT FILES**

Notes about Script files – Creating and saving a script file – Running a script file – Global variables and Input to a script file- Output commands.

## **UNIT V: TWO DIMENSIONAL PLOTS**

The Plot Command – Plot of given data – Plot of a function –The plot command plotting multiple graphs in the same plot – Formatting a plot – Plots with special Graphs – Histograms.

## **DISTRIBUTION OF MARKS: THEORY100%**

### **TEXT BOOK**

<b>S.NO</b>	<b>AUTHORS</b>	<b>TITLE</b>	<b>PUBLISHERS</b>	<b>YEAR OF PUBLICATION</b>
1.	Amos Gilat	MATLAB An introduction with Applications	John Wiley& Sons, U.K	2009

## REFERENCE BOOKS

S.NO	AUTHORS	TITLE	PUBLISHERS	YEAR OF PUBLICATION
1.	Stephen J.Chapman	MATLAB Programming for Engineers	Nelson Education LTD, Canada	2009
2.	D.J.Higham and N,J,Higham	MATLAB Guide	Society of Industrial and Applied Mathematics, U.S	2005
3.	R.Pratap	Getting started with MATLAB	Oxford University press, U.K	2010

## WEB SOURCES

1. <https://www.academia.edu> › Gilat\_4th\_MATLAB\_An\_Introduction\_with\_Applications.
2. <https://www.siam.org/books/ot92>

## SYLLABUS DESIGNER

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