

National Institute of Electronics & Information Technology Gorakhnur





	Course Content
S.no	Topics
1	OVERVIEW AND BASICS OF MATLAB
	• Introduction to MATLAB, Features and uses of MATLAB, Local
	Environment Setup.
	Use of Semicolon, comments etc., Operators and characters in MATLAB.
	VARIABLES, COMMANDS AND M-FILES
2	Creating Vectors, Matrices, Input and Output Vector, Matrix, Array and
	DATA TYPES AND OPERATORS OF MATLAR
3	Data Types Available Determination and conversion of data types
	Arithmetic Logical and relational operators. Set and hitwise operations
	VECTORS.MATRICES AND ARRAYS OPERATIONS
	Row, column vectors, Vector operations: Addition, Subtraction,
4	multiplications etc., Transpose, conjugate, determinant and inverse of a
	Matrix
	Multidimensional Arrays ,sorting array etc.
5	DATA INPUT & OUTPUT
3	Low-Level File input and output, Import and export Text Data Files
	Inbuilt Functions and User-defined Functions
-	Useful MATLAB inbuilt functions (math, trig, statistical, etc.)
6	Applications of MATLAB inbuilt functions in real-world problems
	Creating user-defined functions using function files Creating MATLAD executable files (MEX files)
	Greating MATLAB executable files (MEX files)
	PLOTTING AND GRAPHICS
7	Introduction to plotting in MATLAB Multiple plots and subplots in MATLAB
	 Adding Title, Labels, Grid Lines, and Scaling on the Graph
	Drawing Multiple Functions and sub plotting
	SIMULINK ITS APPLICATIONS
8	 Introduction to Simulink and its applications,
	Creating simple models in Simulink, Using input and output blocks, Model annotation and signal labeling
	Basics of Simscape
9	What is Simscape?
	Using Simscape libraries for physical modeling
	Overview of electrical, mechanical and thermal domains; Basic Simscape
	block usage.