

SLOG SOLUTIONS PRIVATE LIMITED
TECHNOLOGY: MATLAB
DURATION: MODULE 1 (4 WEEKS)
MODULE 1 + 2 (6 WEEKS)

MODULE 1:

Introduction to MATLAB

- Historical Background,
- Applications,
- Scope of MATLAB,
- MATLAB Environment,
- Type of File in MATLAB,
- MATLAB Command,
- Matrix Subscripts,
- Matrix Manipulations,
- Reshaping Matrices,
- Importing Exporting of Data,
- Matrix and Arrays Operation,
- Data Types.
- **Polynomials Operation and Input – Output Statements**
 - Introduction to Polynomial,
 - Polynomial Evaluation,
 - Roots of a Polynomial,
 - Polynomial Addition and Subtraction
 - Polynomial Multiplication,
 - Polynomial Division,
 - Formulation of Polynomial Equation,
 - Characteristic Polynomial of a Matrix,
 - Polynomial Differentiation,
 - Polynomial Integration,
 - Evaluation of Polynomials with Matrix Arguments,
 - Introduction to Input – Output Command,
 - Data Input,

MATLAB Graphics

- Introduction to MATLAB Graphics,
- Two – Dimensional Plots, Multiple Plots,
- Style Options,
- Legend Command,
- Sub Plots,
- Specialized Two – Dimensional Plots,
- Three Dimensional Plots.

Control Structure, Function Programming

- Introduction to Program Controlling,
- For Loop,
- While Loop,
- Branching Control Structure,
- If Control Structure,
- Switch Statement,
- Break Statement

Simulink.

- Simulink Basics,
- Starting Simulink Model,
- Opening Simulink,
- Simulink Modelling,
- Solver,
- Fixed –Step Continuous Solvers,
- Variable –Step Continuous Solver

MATLAB GUI.

- Building a New GUI.

MODULE 2: 6 week

Simulink.

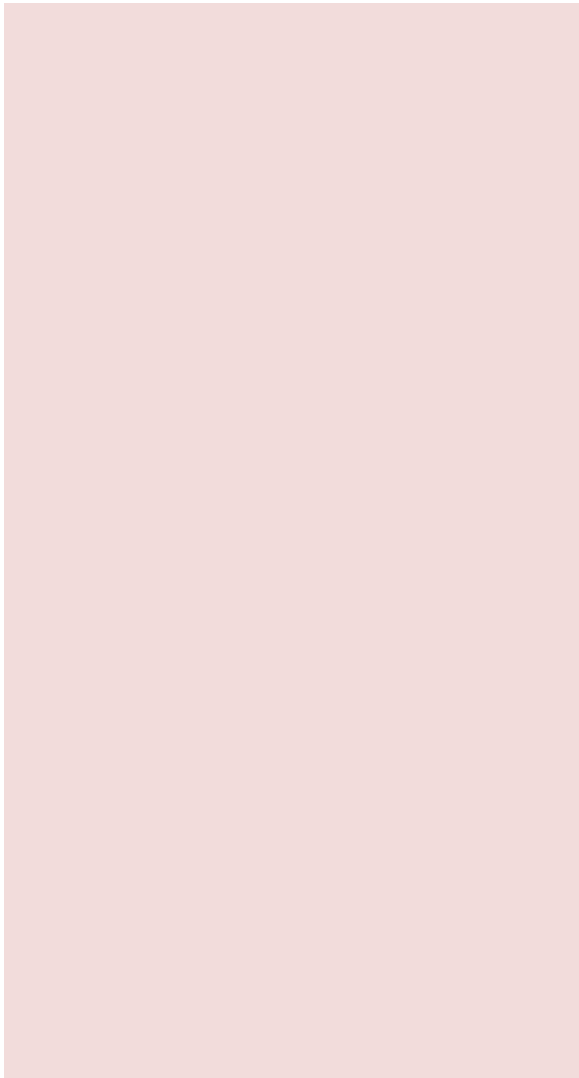
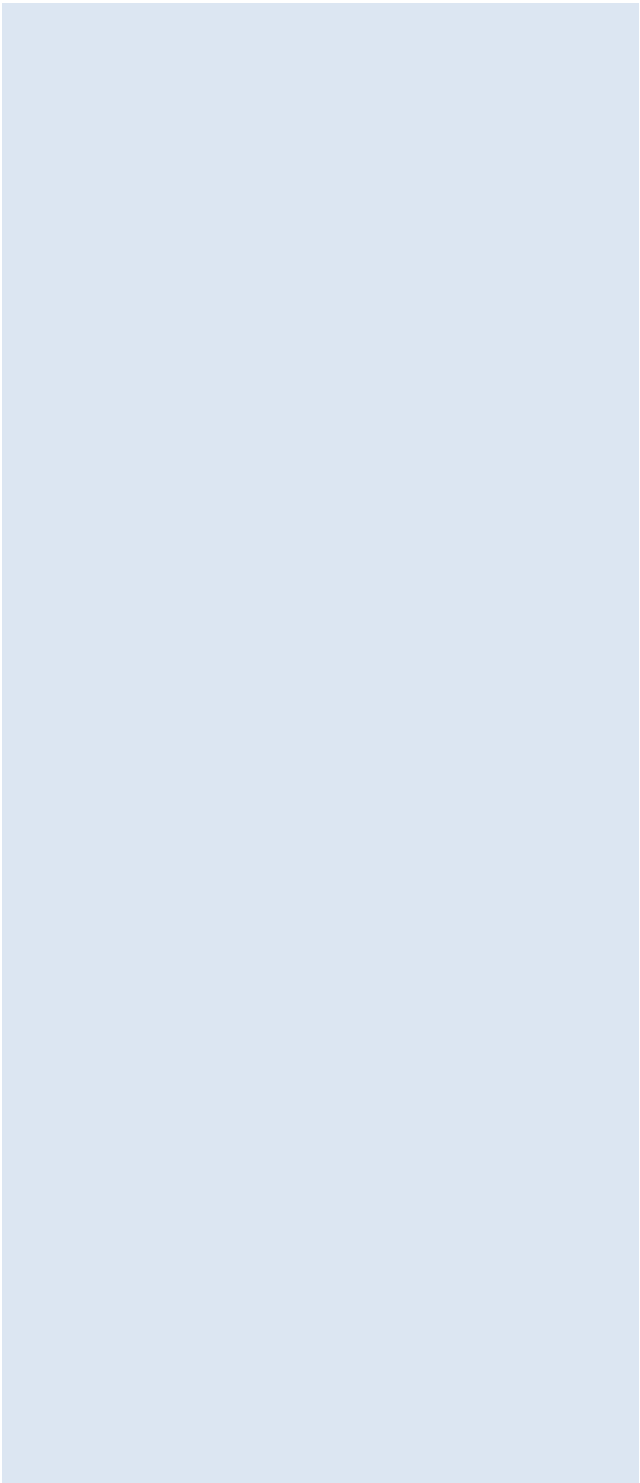
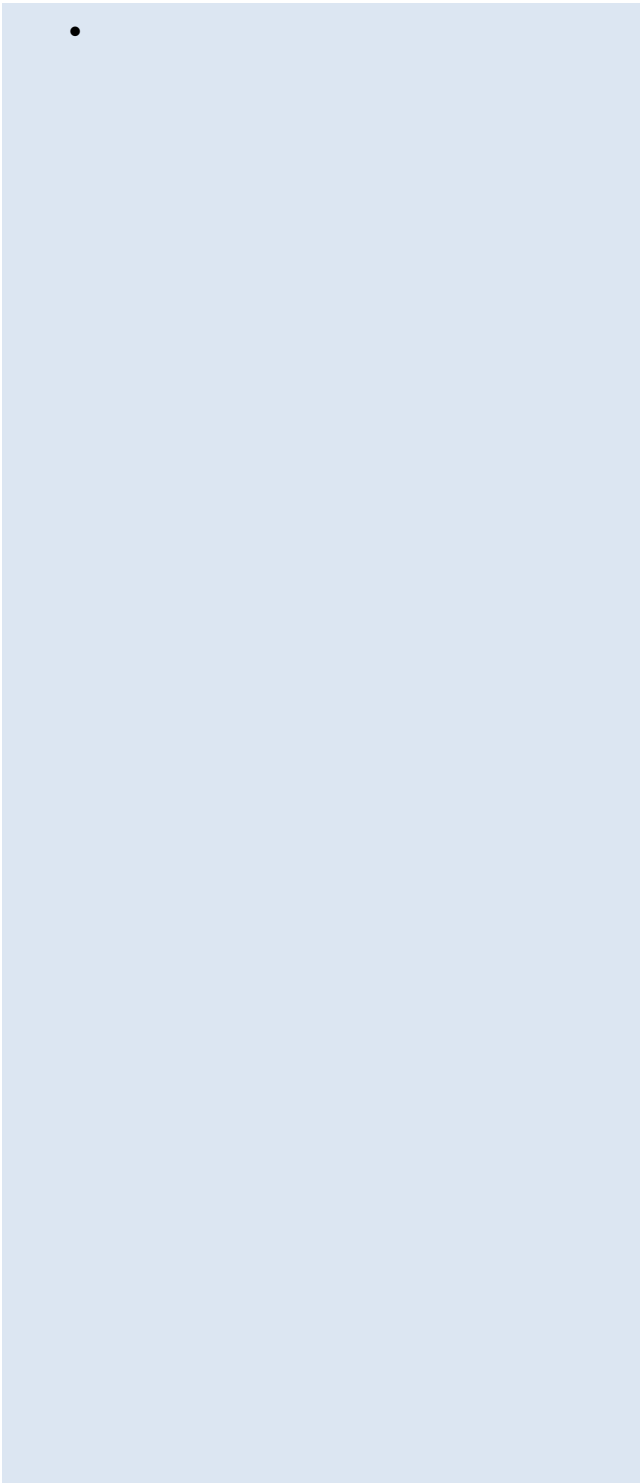
- Simulink Basics,
- Starting Simulink Model,
- Opening Simulink,
- Simulink Modelling, Solver,
- Fixed –Step Continuous Solvers,
- Variable –Step Continuous Solver,
- Data Import and Export,
- State Space Modelling and Simulation.
- Creating Sub Systems,

MATLAB GUI.

- Building a New GUI.

MATLAB Application in Control Systems

- Laplace Transform,
- Inverse Laplace Transformation, Zeros,
- Poles and Pole – Zeros Map of a Transfer Function,
- State Space Representation of Dynamic Systems,
- Series/Cascade, Parallel and Feedback Connections,
- Root Locus, Root Locus Plot using Matlab,
- Root Locus using Plot Command,
- Bode Plots, Plotting Bode Diagrams,
- Polar Plots, Nyquist Plots



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