INTRODUCTION to MATLAB

- Historical Background
- Applications
- Scope of MATLAB
- Importance of MATLAB for Engineers
- Features
- MATLAB Windows(Editor, Work Space, Command History, Command Window)
- Operations with Variables
- Naming and Checking Existence
- Clearing Operations
- Introduction to Arrays
- MATLAB File Types

DATA and DATA FLOW in MATLAB

- Matrix Operations & Operators
- Reshaping Matrices
- Importing Exporting Of Data
- Arrays
- Data types
- File Input-Output
- Communication with External Devices

EDITING and DEBUGGING M FILES

- Writing Script Files
- Writing Functions
- Error Correction
- M-Lint Automatic Code Analyzer
- Saving Files

PROGRAMMING

- Flow Control
- Conditional Statements
- Error Handling
- Work with Multidimensional Array
- Cell Array & Characters
- Developing User Defined Function
- Scripts and Other Functions

MATLAB GRAPHICS

- Simple Graphics
- Graphic Types
- Plotting Functions

Classroom Training   **Industry Trainers**   **08801105544**
Online Training
ON-DEMAND Training   **"Read what you need"**   **04066100999**

Focus Training Services

- Creating Plot & Editing Plot(2D and 3D)
- Graphics Handles
- GUI(Graphical User Interface)

DETAILED ANALYSIS of CONTROL SYSTEM TOOLBOX

- General Instructions
- Creation of Linear Models
- Classes of Control System Toolbox
- Discussion on State Space Representation
- Transfer Function
- System Gain and Dynamics
- Time & Frequency Domain Analysis
- Classical Design, State Space Model
- Transfer Function Representation, System Response
- LTI Viewer Detail and Explanation About LTI Viewer
- Designing of Compensator
- Use of SISO Design & MIMO Design Tool

SIMULINK

- Introduction
- Importance
- Model Based Design
- Tools
- Mathematical Modeling
- Converting Mathematical Model into Simulink Model
- Running Simulink Models
- Importing Exporting Data
- Solver Configuration
- Masking Block/Model

DETAILED ANALYSIS OF COMMUNICATION TOOLBOX

- Signal Sources
- BER Tool
- Modulation
- Special Filter
- Channels
- Equalizers

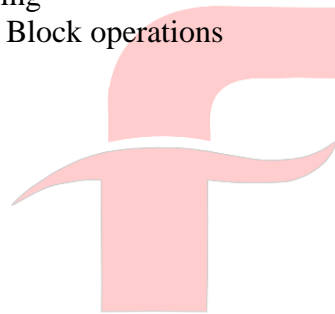## DETAILED ANALYSIS OF SIGNAL PROCESSING TOOLBOX

- Basics of Signal Processing
- Representing Signals
- Analysis of different Signals
- Complex Signals

- Filter Designing
- Using the Filter Designing GUIs
- Analyzing the filter plots
- Filter Designing using Script Files
- Other Signal Processing Functions

DETAILED ANALYSIS OF IMAGE PROCESSING TOOLBOX

- Reading and Writing Image Data
- Displaying and Exploring Image
- Spatial Transformation
- Image Registration
- Designing and implementing 2D linear Filters for Image Data
- Morphological Operations
- Transforms
- Analyzing and Enhancing Images
- ROI based Processing
- Neighborhood and Block operations

PROJECT