

5 Days Workshop on MATLAB and SIMULINK

Workshop Objectives

The workshop is consists of different sub modules with the focus on making the participant comfortable in working and handling different engineering tasks in MATLAB and SIMULINK. The workshop may be a refresher for participants who already know about working in MATLAB & SIMULINK and starter for who don't know how to work in MATLAB. Few of the objectives are mentioned bellow:

Programming in MATLAB

This part of the workshop is design to enhance understanding, learning and working capabilities of participants to work, implement, and program their problems/systems effectively and efficiently in MATLAB. Following few minor objectives are outlined which will help to achieve the forth mentioned objective. This workshop will help participant to understand, learn and apply:

- MATLAB commands
- MATLAB computational power
- MATLAB working on commands windows and M-files
- How to use MATLAB help
- Programming techniques
- Programming in MATLAB
- How to debug MATLAB programs
- How to plot the results, input and output in MATLAB
- How to analyze results, input and output in MATLAB
- How to handle and represent graphs MATLAB
- How to use IF ELSE condition in MATLAB
- How to use SWITCH CASE in MATLAB
- How to use LOOPS in MATLAB
- How to handle data and results in arrays, cells and structured form in MATLAB
- MATLAB working utility and applications
- How to implement your problem in MATLAB
- How to solve ODE in MATLAB
- How to use Symbolic math in MATLAB
- How to make user defined functions in MATLAB
- How to apply and solve the problems in MATLAB

Modeling and Simulation in SIMULINK

This part of the workshop is design to enhance understanding, learning and working capabilities of participants to work, implement, model and program their



problems/systems effectively and efficiently in SIMULINK. Following few minor objectives are outlined which will help to achieve the forth mentioned objective. This workshop will help participant to understand, learn and apply:

- How to make Mathematical model
- MATLAB commands
- Modeling of Dynamic systems
- Simulation of dynamic systems
- How to use MATLAB & SIMULINK help
- Programming techniques in SIMULINK
- How to debug SIMULINK programs
- How to plot the results, input and output in MATLAB and SIMULINK
- How to handle and represent graphs MATLAB/SIMULINK
- How to make S-function
- How to do Subsystem and masking
- What is Modular Approach? And its application in modeling and simulation
- Handling properties of simulation in SIMULINK
- How to apply and solve the problems in SIMULINK

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