Matlab programming , GUI and simulink

Pre-request: basic knowledge of programming

Course duration: 48 Hours

On completing this course you will be able to:

- Using Matlab as calculator
- Solving equation on Matlab
- Differentiation and integration
- Plotting command
- Make full Gui design
- How Simulink work.
- Electrical Simulink.
- Power electronic systems with Simulink
- Motor and drive in Simulink

Course Content:

- Matlab overview.
- Using Matlab as a calculator.
- Dealing with variables in Matlab.
- Matrices operation on Matlab.
- Solving equations on Matlab.
- Differentiation and integration.
- Plotting command (2d-3d).
- Interpolation of carves.
- Programing in Matlab.
- Programing using dialogue box.
- Menu and input output option.
- Generation function in Matlab.
- Save data from Matlab function to excel sheet or office file.
- Plotting from excel sheet.
- Make animation in Matlab.
- Calculate area under curve using mouse, many programing problems.....).
- GUI basics.
- GUI command.

- GUI examples.
- Serial interface using Matlab.
- Matlab interface with micro controller.
- GUI program for dc motor control.
- Introduction to Simulink.
- How Simulink work.
- Solving methods in Matlab.
- Simulink library overview.
- Dynamic system simulation.
- How to build model.
- Creating subsystem.
- Enable and triggered subsystem.
- Referencing Models.
- Modeling Control Flow Logic.
- Callback Functions.
- Model Discretize.
- Working with Blocks.
- Dealing with signals.
- Working with Data Objects.
- Electrical Simulink.

- Circuit Simulink.
- Power electronic systems.
- Drives control.
- Power station stability control.