## About CRISP

CRISP is established under Indo-German Cooperation agreement as an autonomous organisation of the Dept. of Technical Education and Skill Development, Govt. of M.P.

CRISP provides technical training and consultancy services for Industry Personnel, Government Officers, Faculties of academic and teaching institutions, Students and Jobseekers. CRISP is equipped with the state-of-the-art equipment and technology, latest software, qualified, trained and experienced trainers in the relevant fields.

CRISP has its head office in Bhopal and training centres at several national and international locations.

**Other training programmes in Electrical and Electronics offered at CRISP are :**

- MMI
- VLSI Design
- AC/DC Drive
- WinCC SCADA
- PLC Networking
- Industrial Automation
- Fiber Optic Networking
- Electronics Maintenance
- Embedded System Design
- Field Instrumentation & Control
- PLC Programming and Application
- Electrical Control & Relay Logic Application

## Patron Clients of CRISP

ACC, adani, Aditya Birla Hindalco, Ambuja Cements, ANDRITZ Hydro, BALCO, BHEL, CNH, GM General Motors, GKN Driveline, HEG, Hindustan Zinc Limited, HCL, HCL Infosystems Ltd, Jaypee Cement, Jindal Steel & Power, JK Lakshmi Cement, Mahindra, NHPC, NMDC, NTPC, Norgren, P&G, TNPL, Tata International, TVS, Turbo Technologies, Telcon, Sandvik, Sesa Sterlite, SRF, Volvo Eicher, UltraTech Cement


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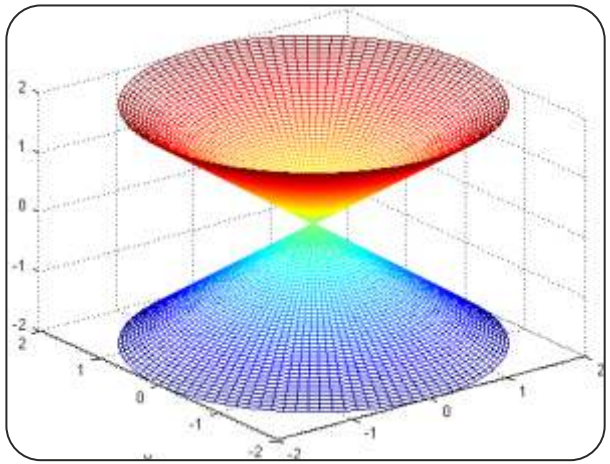
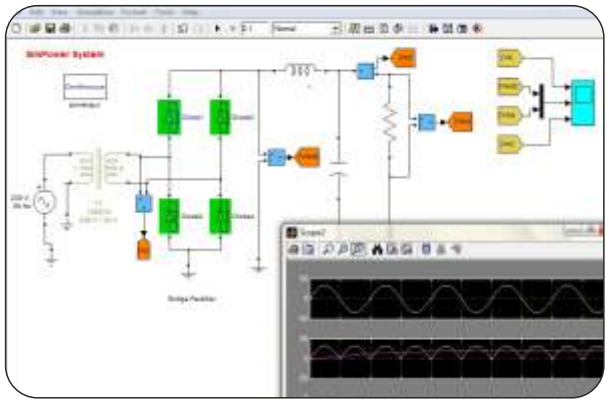
# MATLAB



**...unleashing the full potential of men & machines**

# MATLAB



## Introduction of Course

MATLAB is known as **MAT**rix **LAB**oratory and developed by Math Works Inc. MATLAB is the high-level language and interactive environment for numerical computation, visualization and programming. More than millions of engineers and scientists in industries and academia use MATLAB worldwide. MATLAB allows to explore and visualize ideas and collaborate across various disciplines like signal and image processing, communication, control system, neural networks, computational finance and biology etc.

Simulink is also developed by MathWorks Inc. Simulink is a block diagram based graphical programming language tool for modeling, simulating and analyzing multi domain dynamic systems. Simulink provides a graphical editor, customizable block libraries, and solvers.

## Course Contents

**MATLAB – An Introduction**

- Importance and features of MATLAB
- MATLAB Desktop Environment
- Data Types and Files in MATLAB
- Constants, Variables and Arrays
- Use of Workspace and Array Handling
- Basic Arithmetic Operations
- Command and Built-in Functions
- Polynomials and Symbolic Math
- MATLAB Graphics (2D & 3D Plots)
- Plotting of Functions
- Customizing Plots with style options

**MATLAB Programming**

- M – files (Scripts and Functions)
- Flow Control Statements
- Loops (for, while)
- Case statement
- If – else
- Input / Output Functions
- Functions and function files
- Debugging with MATLAB Editor

**Simulink**

- Introduction to Block Libraries
- Basic Building Blocks and Utilities
- Introduction to Mathematical Modeling
- Setting Model Properties
- Interfacing of m-file with Simulink
- Simulation and Debugging in Model file

**SimPowerSystem Toolbox**

- Introduction to Block libraries
- Modeling of Electrical Systems
- Interfacing the Electrical Circuits with Simulink

**Graphical User Interface (GUI)**

## Methodology

The programme consists of a mix of :

- Lectures and presentations
- Demonstrations
- Interactive discussions
- Hands-on practice

## Pre-requisite

- Industry personnel with relevant experience
- Passouts or students pursuing Diploma/ Degree in Science / Engineering or equivalent

## Duration

**Full time :** 5 working days (7 hours/day)
**Part time:** Three weeks (15 working days, 2 hours/day)

## Course Fee

Kindly refer to our training calendar at www.crispindia.com or can be obtaind from CRISP counselling desk

## Mode of Payment

Cash / Online/ Debit/ Credit Card