Agenda

CoreEL Technologies (I) Pvt Ltd
CoreEL University Program Team

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Day 1

Time	Topic
10:00 – 10:15	**An Introduction to CoreEL & MathWorks**
10:15 – 11:15	**Understanding MathWorks Products** • MATLAB R2018a Introduction • New features & modifications in R2018a • MATLAB software documentation • Introduction and features of MATLAB toolboxes
11:15 – 11:30	**Short Break**
11:30 – 13:00	**MATLAB Programming basics** • Data addressing • Language fundamentals • Operators, Functions & System objects • Hands on: Matrix arithmetic, import & export of data, MATLAB scripting.
13:00 – 14:00	**Lunch Break**
14:00 – 15:00	**Model based design using Simulink** • Introduction to mathematical & physical modelling • Overview of Simulink block library. • Introduction to solvers • Introduction to Physical components library Hands on: Design and implementing the mathematical equations in Simulink (Damper Spring Model)
15:00 – 15:15	**Short Break**
15:15 – 16:15	**Design and Implementation of Solar Cell Modelling** • Introduction to Solar Cells And Array • Design specifications from IEEE papers • Implementation the solar cell model using Simulink Hands on: Design and mathematical modelling of Implementation Solar Cells and Array in Simulink and compare the results.

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Day 2:

Time	Topic
10:00 – 11:30	**Control System Design & Analysis** • Learn the basics of Control System Toolbox • Control System Design & PID Controller for Tuning • Mathematical modelling of DC • Hands on: Design and implementing of Mathematical modelling of DC motor in Simulink
	Short Break
11:45 – 13:00	**Design and Implementation of Buck and Boost Converter** • Introduction to Buck and Boost Converter • Design specifications from IEEE papers • Implementation of Buck and Boost Converter using Simulink Hands on: Design and mathematical modelling of Implementation Solar Cells and Array in Simulink and compare the results.
13:00 – 14:00	**Lunch Break**
14:00 – 15:00	**Physical Modelling with SIMSCAPE** • Learning the SIMSCAPE language • Physical Modelling • Modelling Electro Mechanical Systems • Utilities & Physical Units **SIMSCAPE Power Systems** Modelling electrical power systems using specialized components & algorithms Hands on Design of DC motor using Simscape
15:00 – 15:15	**Short Break**
15:15 – 16:15	**Computer Application in Power System Simulation** • Load Flow Analysis Design Constratints • Introduction to Power GUI • Hands on session on Load Flow Analysis of 5 Bus Model • Power GUI menu setting pertaining to parameters and preferences Simulation of Transmission Line of Short Line Mode

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Checklist for Workshop:

Hardware requirement:

1. Lab computer / Laptop with internet connectivity
2. 1 machine for 2 participants
3. 64 bit machines
4. 4 Gb RAM
5. Windows 7 and upwards(Service Pack 1)
6. Speakers to play video
7. Projector
8. Collar mike
9. White board with marker

Software requirement:

1. MATLAB and Simulink with all toolboxes

Kindly note trail license can be generated one week prior workshop.

Profile of the presenter:

Pramod Kumar Naik
Senior Application Engineer (Mathworks products)
CoreEL Technologies, Bangalore.

Post Graduated from VTU PG studies, VTU Belgaum in VLSI DESIGN .Graduated from VTU Belgaum in E&EE, he has 8 years of experience. He has published 22 papers in both Nation and International Journals.

Manisankar
Application Engineer (MathWorks products)
CoreEL Technologies, Bangalore.

Post Graduate Diploma from CDAC-NOIDA, in Integrated VLSI & Embedded Systems. Graduated from Anna University Coimbatore in ECE, he has 2 years of experience on MATLAB for Image processing, Image Acquisition and Computer Vision.He has worked as MATLAB Developer for one year in Spiro solutions Pvt Ltd, Chennai.