



SCHOOL OF ELECTRICAL ENGINEERING

Value added Program on
“VAC 1824 - INTRODUCTION TO POWER SYSTEM SOFTWARES”
IPSS-2024

15/09/2024, 22/09/2024, 06/10/2024 and 20/10/2024

ABOUT VALUE ADDED PROGRAM

The main attributes of this power system engineering software include:

- Analytical tool for transmission, distribution and industrial power systems
- Customized IT support of operational analysis in power engineering systems
- Client services for training (integration and comprehension)

Electric power industry is currently undergoing substantial changes in both its structure (ownership and technology aspects) and its architecture (operational and oversight aspects). These changes involve attempts to move the industry away from highly regulated markets with administered cost-based pricing and towards competitive markets in which prices more fully reflect supply and demand forces. The goal of these changes is to provide industry participants with better incentives to control costs and introduce innovations. The process of enacting and implementing policies and laws to bring about these changes has come to be known as restructuring.

The goal of this resource is to encourage the study of restructured electricity markets from a perspective that adequately addresses both economic and engineering concerns. Annotated pointers are provided to open-source software (OSS) facilitating the modelling of electricity markets as commercial networks of strategically interacting traders and regulatory agencies learning to operate through time over realistically rendered transmission grids.

MATLAB is numeric computation software for engineering and scientific calculations. MATLAB is increasingly being used by students, researchers, practicing engineers and technicians. The causes of MATLAB popularity are legion. Among them are its iterative mode of operation, built-in functions, simple programming, rich set of graphing facilities, possibilities for writing additional functions, and its extensive toolboxes.

The goals of organising this VAP

- To provide the reader with simple, easy, hands-on introduction to MATLAB;
- To demonstrate the use of MATLAB for solving electronics problems;
- A Hands-on learning on AC and DC circuit analysis using OrCAD.

MATPOWER is an open-source MATLAB-based power system simulation package that provides a high-level set of power flow, optimal power flow (OPF), and other tools targeted toward researchers, educators, and students.

Final session contains both lecture and hands-on learning on AC and DC circuit analysis using OrCAD. Focussed on the basic OrCAD design flow, OrCAD capture GUI, and part creation followed by the hands-on design of simple circuits in OrCAD capture, analysis of verification of various theorems using OrCAD, analysis of ac and dc circuit with different dependent sources using OrCAD.

Benefits of VAP

This VAP will provide the students/participants an exposure to the most popular Electrical and Electronic design software. The training that they acquired from this VAP will aid them in their mini projects as well as major projects. Such trainings will make them to use MATLAB/MATPOWER/OrCAD in a proprietary software tool suite used primarily for Electrical and Electronics design Simulation.

SCHEDULE OF VAP

Date/ Time	09:00 Hrs to 13:00 Hrs		14:00 Hrs to 17:00 Hrs
15-Sep-2024	Introduction about MATLAB Solving simple problems using MATLAB- – Part:1	LUNCH BREA	Introduction about MATLAB Solving simple problems using MATLAB – Part:2
22-Sep-2024	Solving Electrical engineering problems using MATPOWER(OSS) – Part:1		Solving Electrical engineering problems using MATPOWER(OSS) – Part:2
06-Oct-2024	TYPHOON HIL Introduction – Part:1		TYPHOON HIL Handson – Part:2
20-Oct-2024	Electric circuit simulations using OrCAD Piece spice – Part:1		Electric circuit simulations using OrCAD Piece spice- Part:2

RESOURCE PERSONS:

Technical lectures and Hands on training will be provided by resource persons from VIT.

Dr. R. Thirumalaivasan

Professor, SELECT
VIT, Vellore

Dr. Ravi K

Professor, SELECT
VIT, Vellore

Dr. I. Jacob Raglend

Professor, SELECT
VIT, Vellore

Dr. J. Belwin Edward

Professor, SELECT
VIT, Vellore

Important Date: Last date for registration: 14 September 2024

Who should attend? UG, PG students

Registration Fee: students: Rs 300 (Excluding GST)

Online Registration Link: <https://events.vit.ac.in/>

Certificates / grade sheet will be issued based on assessment.

Coordinators

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