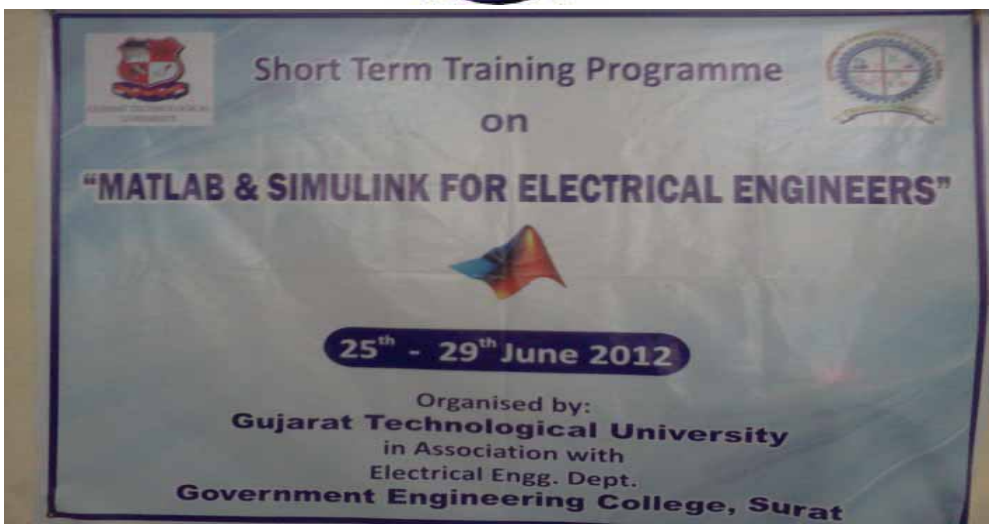


**A**

**Report on**

**one week STTP**

**on**

# "MATLAB and Simulink for Electrical Engineers"

**organized by**

**Gujarat Technological University**

**in**

**association with**

**Government Engineering College, Surat**

**from**

**25th June, 2012 to 29th June, 2012**

***Inauguration***

A one week short term training programme titled “MATLAB and Simulink for Electrical Engineers” was organized by Gujarat Technological University in association with Government Engineering College (GEC), Surat from 25th June, 2012 and 29th June, 2012 at Government Engineering College, Surat. Experts were invited from IIT, Bombay and from various colleges of Gujarat, who enriched the participants with their knowledge and expertise in their domains.

The focus of this training programme was to impart in-depth knowledge of application of MATLAB and Simulink in different domains of electrical engineering.

On the first day, lecture and laboratory sessions were conducted by Dr. S. R. Joshi (Associate Professor, Electrical Engg. Dept., GEC, Surat), in this sessions he discussed different aspects of programming in MATLAB at length and which was followed by rigorous exercise during the laboratory session.

***Dr. S. R. Joshi Delivering Lecture***

On the second day, the lecture sessions were taken by Prof. H. R. Jariwala, from SVNIT, Surat, and Dr. S. R. Joshi. In this sessions introduction to Simulink and different components of its library were discussed by the experts which was followed by application of Simulink for analyzing different types of electrical circuits like resistive, R-L, R-L-C etc. The governing equations of such simple electrical circuits were simulated for different operating conditions. The problems discussed during theory sessions were simulated during the laboratory session. Almost all participants have found this a new approach of simulating circuits and systems using Simulink blocks. It was demonstrated that this approach is more elegant and useful.

On the third day, the lecture sessions were taken by Dr. S. N. Pandya, from Shantilal Shah Engineering College, Bhavnagar, and Dr. S. R. Joshi. In-depth knowledge of application of MATLAB programming, Simulink, SISO tool etc. in the control system domain was imparted to the participants and various advanced aspects of Simulink were covered by the experts Laboratory session was based on the solution of control system problems using MATLAB, Simulink and SISO tool. Dr S R Joshi had discussed API (Application programming Intefacing) of MATALB with other programming languages like C and FORTRAN. He also discussed the handling of huge size data file by MATLAB for reading and writing permissions.

On the fourth day, the lecture sessions were taken by Dr. B. N. Suthar, from L. D. College of Engineering, Ahmedabad, and Dr. S. R. Joshi. The sessions were based on application of MATLAB programming and simpowersystem in the area of Power System Analysis including load flow analysis. Exercises based on problems of performance of transmission line and travelling waves of transmission lines were taken up during sessions.

On the fifth day, both the lecture sessions as well as the laboratory session were taken by Prof. A. M. Kulkarni, Indian Institute of Technology, Bombay. The numerical methods used for electrical engineering and application of these methods for solution of electrical circuits and systems were discussed at length during the sessions. The intricacies of numerical methods used for numerical integration methods for various types of systems like stiff systems and non-stiff systems were also discussed at length during the sessions.

***Prof. A. M. Kulkarni, IIT, Bombay Delivering Lecture***

The sessions of the fifth day were followed by valedictory function which was chaired by Prof. B. M. Vadher, Principal, Government Engineering College, Surat. Total 51 Participants were given their certificates by Prof. B. M. Vadher, Prof. A. M. Kulkarni and Dr. S. R. Joshi.

A brief feedback session was held in order to find out the outcome and short falls of STTP. All participants who have given their feedback were very much satisfied with the content covered in the STTP and expressed their gratitude to Gujarat Technological University for organizing the STTP. They also suggested to conduct more number of such STTPs on the topics like control theory, applied mathematics to electrical engineering, power electronics, power system operation and control etc.

***Feedback from participants***

In nut shell, the motive of STTP was served. In addition to the subtle points of MATALB and Simulink, the fundamentals and concepts of circuits and network, control theory and power systems were imparted to teachers with the help of the software. The application of the software as a teaching tool was nicely demonstrated in the STTP.