



**Knowledge Network of  
Indian Institute of Technology, Gandhinagar  
Under TEQIP-II Initiative (MHRD, Govt. of Gujarat)**

## **Workshop on Modeling and Analysis of Electrical Systems**

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**Date:** 12-16 May, 2014

**Time:** 9 AM to 5 PM

**Venue:** IIT Gandhinagar  
Shed-3 and Machines Laboratory in H-block

**Target group:** Faculty members

**Register At:** [www.iitgn.ac.in/kn](http://www.iitgn.ac.in/kn)

**Registration closing date:** 5<sup>th</sup> May 2014

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This is mainly a Laboratory activity which includes building equivalent circuit models for electrical systems and then validating those circuit models. For this purpose, electrical systems like Magnetic systems, Transformer, DC machine (motoring and generating modes), Synchronous machine (motoring and generating modes), Induction motor, Power electronic converters are considered.

Phase 1 – Modeling: With each system, standard measurements are carried out at the terminal level and then appropriate circuit models are developed. The developed circuit models characterize the terminal behaviour.

Phase 2 – Analysis: Starting with the circuit model, performance of the systems is analyzed.

Phase 3 – Validation: To assess the correctness of circuit representation, experiments are performed on the actual systems. By comparing the results obtained from circuit representation and the experimental results, the correctness of circuit model could be understood.

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