

Report

On

**Short Term Course on Modeling and Simulation using MaTLab at National Institute of Technical Teachers' Training and Research, Kolkata**

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Respected Madam,

In keeping with my undertaking agreement regarding past Short Term Course visit at NITTTR, Kolkata I am submitting the accompanying background report entitled Report on Short Term Course on Modeling and Simulation using MaTLab at National Institute of Technical Teachers' Training and Research, Kolkata.

The purpose of the report is to share my experience, knowledge and outcome of that visit. In addition, the report discusses about the topics and hands-on provided in the training. The report concludes with a review of how my visit can enrich institutional development program.

Hope this report will prove to be satisfactory.

Respectfully Yours,

Rimpi Datta

Assistant Professor

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## **Report on Short Term Course at NITTTR, Kolkata**

**Objective:** To gain and share some knowledge on Modelling and Simulation using MaTLab.

**Experience:** Short Term Course on Modelling and Simulation using MaTLab at is an academia knowledge sharing initiative taken by National Institute of Technical Teachers' Training and Research, Kolkata. The training was a two week full time course from 21<sup>st</sup> July 2014 to 1<sup>st</sup> August 2014. The primary objective of this programme is to update/enhance the skills of engineering faculties in advanced domains of Information Technology keeping pace with the IT industry. The engineering faculties may be exposed to the needs of IT industry so that they can in-turn nurture, educate and mould their students while they are still in the college.

The training methodology includes:

- Module wise case studies
- Matlab based laboratory assignment
- Classroom Lectures
- Special lecture session by external experts

Each module they had prepared for delivery, aimed for practical aspect of that theory and some of which related to their current research work. The content they have covered have been listed below:

1. solve simple problems using MATLAB programming
2. Construct simple models using SIMULINK.
3. construct the required functions to perform the operations in main problems
4. use the different tool boxes and block sets in MATLAB
- 5 solve engineering problems using MATLAB programming
6. analyze Engineering problems using SIMULINK
7. resolve the problem while ERRORS are occurred during the programming or modeling
8. compare the MATLAB with other software
9. appreciate the use of MATLAB in solving problems related to Electrical, Electronics & Communication Engineering and alliance branches of Engineering

Prof. U Kar course co-ordinator of NITTTR, Kolkata given an introduction on MatLab and its application in various Engineering domain. Practical session in this module includes some basic filter design in MATLAB. We have gone through some hands-on session on designing an algorithm for image compression using MATLAB as well as different Toolbox in MatLab. They have discussed some research problems.

**Outcomes:** I have gained extensive details of subject knowledge along with practical knowledge. Case studies and practical examples enrich my concept on that topic and that will help me to conduct lab in my institution. The research problems they have thrown, also help me in my research activity and also for my students.

### **Institutional**

**Development:** What I can contribute for the institute has been listed below:

- I can share my knowledge among the students.
- Practical ideas gained during that training will be helpful for performing innovative experiment in lab session.
- I can share the tutorial material among students provided by NITTTR.
- I can help to add extra tutorials in the curriculum of UG and PG course to meet industrial needs.
- UG and PG students can be motivated in research work by providing small research problems as a project.
- I can help to arrange some collaborative R&D activity in our institution for upliftment of our research activity.