

# 2010

THINKWARE-

“TECHNOLOGY & INNOVATION KIOSK”

[www.thinnkware.com](http://www.thinnkware.com)

*“This is Computer age next will be Robotic era”*

## **WORKSHOP ON MATLAB SOFTWARE “X-MATROL”**

*ThinnkWare conceptualizes their own unique modules in MATLAB and its Control system toolboxes which provide students a good platform to learn the concept and use in various applications.*

Thinnk Ware, venture of KC Robotics & Embedded Pvt. Ltd.  
[www.thinnkware.com](http://www.thinnkware.com)

# ThinnkWare: Technology & Innovation Kiosk

## Shepherding-Intelligent-Tomorrow

**M/s ThinnkWare** is a venture which deals in the domain of Robotics, Embedded Systems & MATLAB with strategically current focus in educational domain to bridge the gap between Industry demands & current academics offerings in Institutes. With a passion in Robotics and keeping constant eye on various national & international events, we have vast experience in the same and a constant focus in this grooming industry. **ThinnkWare** was founded by a strong team of young Engineers & budding Entrepreneurs working in the same industry, and is currently incubated at STEP-ITBI, JSSATE Noida. The company is properly backed by the experienced IITians and Industries.

By developing an active interest of youth in robotics and embedded systems, Thinnk Ware aims to lay a strong foundation for the technical development of our country. Thinnk Ware is a constant facilitator in the scientific and technical education of students by providing them requisite resources through wide variety of kits, software based programming tools, basic & advanced level workshops and web based learning resources.

The various products have been designed with a viewpoint of both educating and inspiring the individual not only about how robots work but about the importance of practical learning both in the academic and professional segments. Thus graduating the idea of Embedded Systems and Robotics from hobby to profession and preparing the students to be confident about pursuing a career.

**ThinnkWare** was conceptualized based on a market unavailability of hands-on practical training and prohibitive cost for hardware and components coupled with their unavailability. With emphasis in superiority & quality, and fueled by an strong R&D team **ThinnkWare** set up at STEP-JSSATE, Noida constantly churn out products to facilitate its goal of creating a strong & rich technical community.

ThinnkWare proposes to be a one-stop-shop for the technical educational needs of the nation with products ranging from student & professor training sessions, laboratory architecture and equipment for educational institutions. Range can be checked out at roboniche section.

We invite you to come share this dream with us propagating these fundamentals further towards the development of a strong and technically rich community. In this proposal we'll guide you through ThinnkWare specifically designed keeping the target audience in mind.

### **Achievements:**

- Appreciated by Dr. APJ Abdul Kalam for their concept of Shepherding-Intelligent-Tomorrow.
- Awarded by Amity HR Excellence award for best team effort.
- Publicized on many magazines & Newspapers.
- Trained more than 5000 students from IITs, NITs, International Universities, Deemed Universities and various Private Institutes.

### **Team ThinnkWare.**

## X-MATrol

### Course Content:

#### *Introduction to MATLAB*

- How to open ,quiting and work on command window
- Discussing about important command used in command window
- Work space
- Command history
- How to use HELP and WEB HELP
- Some important matrix operations
- Introduction to some operators
- Introduction to M-file editor
- Editing and debugging M-files
- Basic plotting functions
- Creating plot
- Editing plot

#### *Exercise on MATLAB*

- Introduction to commands

#### *Programming 1*

- Flow control
- Work with multidimensional array
- Cell array
- Characters

#### *Programming 2*

- Developing user defined function
- Scripts and functions

#### *Basic Introduction to Toolboxes*

##### *Introduction to Simulink*

#### *Introduction to different Blocksets*

- Working on some simulation example

#### *Detailed Analysis of Control System Toolbox*

- General instruction,
- How to create linear model
- Discussion on state space representation
- Transfer function

### ***Application of control system toolbox***

- System gain and dynamics
- Time domain analysis

### ***Frequency domain analysis***

- Classical design

### ***State space model***

- Working on some example

### ***Transfer function representation***

- System response
- Working on some examples

### ***LTI viewer detail and explanation about LTI viewer***

- Introduction to Designing of compensator

### ***Use of SISO design tool***

### ***MIMO design***

### ***Application via some example of control system toolbox***

- State reduction analysis

### ***Introduction to SIM POWERSYSTEM (simulink) Blockset***

- Introduction of some commonly used blocks
- Introduction to sinks
- Introduction to sources
- And respective parameters

### ***Simpower system blockset detailed analysis***

- Application libraries
- Elements
- Measurements
- Machines
- Power electronics

### ***Application of powersystem blockset on some Power Electronics circuits***

### **Course Duration:**

- The training will be of 5 days (30 hours)

### **Course Fees:**

- The fee for is Rs. 2500/- each student.

### **Features of Workshop:**

- Certificate will be given to each participant.
- Free membership on Thinkware web portal for online technical discussion & open source codes.
- Study material & compiler CD will be given to each student.

### **Requirements from college:**

- Infrastructure as computer lab as per the no. of participants.
- LCD Projector for the lecture.
- Lodging & Boarding facility for the trainer during workshop.
- Minimum participation of 40 students.

### **Contact Person:**

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CMO

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