

**MES COLLEGE MARAMPALLY**  
**DEPARTMENT OF ELECTRONICS**  
**CERTIFICATE COURSE**  
**ON**  
**MATLAB**

*Syllabus*

*Duration:30 hrs*

***Aim and objective:*** MATLAB as hands on Mathematics to engage students and facilitate critical thinking while implementing the common core standards of mathematical practice. The course mainly focused on Symbolic Math Tool Box. Symbolic math tool box provides functions for solving and manipulating symbolic math expressions and performing variable-precision arithmetic.

**MATLAB fundamentals (3hrs)**

Introduction, Basic features, creating MATLAB variables, controlling the hierarchy of operations of precedence .getting help

**Simple computation with MATLAB (4 hrs)**

Mathematical functions, matrix generation, indexing and manipulation, solving linear equation.

## **Plots and graphs in MATLAB (5 hrs)**

Simple plots, adding titles, axis labels and annotations, Multiple plots, specifying line styles and colours

## **Introduction to programming (5 hrs)**

Script files, working in script M-files, Function M-files, anatomy of a function M-file, input and output arguments, input to a script file, output commands

## **Control flow and operators (5 hrs)**

Flow control constructs, if statement, switch statement, for loops, while loops, break statements

Relational and logical operators, other flow structures, operator precedence, saving output to a file

## **Debugging M files (4 hrs)**

Preparing for debugging, setting breakpoints, running with break points

## **Introduction to simulink (4 hrs)**

Applications