DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING,
FACULTY OF ECE,
Rajshahi University of Engineering & Technology, Bangladesh

EEE3110 – Computational Methods for Electrical ENGINEERING

LAB SHEETS

STUDENT WORKBOOK

LAB EXPERIMENT # 1: To get familiar with MATLAB

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1.1 Objectives

- To become accustomed with the simulation of power electronic circuits in the MATLAB environment
- Learn how to use MATLAB to create a simple system
- Learn how to run big and complex calculations for projects and sessional through MATLAB

1.2 Theory

1.2.1 MATLAB

MATLAB is a high-performance programming language used in technical computing. It combines computing, visualization, and programming in a user-friendly environment in which they express problems and answers in common mathematical notation. MATLAB is an abbreviation for matrix laboratory. MATLAB made it simple to access matrix data.

1.2.2 MATLAB Desktop Applications

- **Command Window:** The Command Window is where you enter variables and run functions and M-Files.
- **Command History:** This saves statements typed into the Command Window in the Command History.
- **Current Directory Browser:** MATLAB file operations use the current directory reference point. Any file you wish to execute must be in the current directory or on the search path.
- **Workspace**: A MATLAB workspace is a collection of variables (called arrays) that are created and saved in memory throughout a MATLAB session.
- **Editor/Debugger Window**: The Editor/Debugger window is used to create and debug M-Files.

1.2.3 Common Block Libraries

The most common used block libraries in communication system models.

1. Commonly Used Block
2. Continuous
3. Math Operation
4. Ports and Subsystem
5. Signal Routing & Sink