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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**Lab Section:** C-2

* 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. **Theory**
     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. **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. **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