KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Electrical Engineering Department

EE 380 - Control Engineering **Experiment # 1**

Introduction to the Computer-Aided Design Package MATLAB

OBJECTIVE:

To become familiar with the Computer-Aided Design (CAD) package MATLAB.

PROCEDURE:

1. Invoke PC-MATLAB by clicking on the MATLAB icon.
2. While in MATLAB, type "*demo*". This will bring up a menu of the available demonstrations. Try some of the demonstrations for a quick display of MATLAB capabilities.
3. Executing "***help***" gives a list of HELP topics, including the M-files in the various libraries on disk. Typing "***help topic***" gives help on the specified ***topic***. If the topic is not in the help file, the help facility looks on the disk for an M-file with the filename ***topic.m*** .
4. Follow the instructions in the **PC-MATLAB PRIMER** supplied to you to gain familiarity with MATLAB.
5. The section entitled "**Analysis and Simulation of Control Systems using MATLAB**" is to demonstrate the use of MATLAB in control systems.

ASSIGNMENT:

- Use the "***help***" command to get familiar with each of the following MATLAB commands:

  roots - poly - conv - polyval - pzmap - series - parallel - feedback - impulse - step - lsim - plot - subplot - eig - expm - bode - logspace - conj - imag - real - residue - ss2tf - tf2ss

- Generate at least one example for each command.
- Print all the results and put them in a report format to be handed to the Lab instructor.