Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Course yr. and section: \_\_\_\_\_\_\_\_\_ Instructor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Laboratory Work No.1

**ACTUATORS AND DRIVERS**

I. Objectives

To familiarize the operation of Actuators and Drivers.

To simulate the design a circuit using Arduino simulator.

II. Materials

TinkerCAD Arduino simulator

III. Problem

Instruction: Upload the video simulating the circuit on the week tab of the courseware and paste your codes on the box provided after each problem.

1. Create a program and design a circuit that will rotate a DC motor clockwise using DIGITAL pin 8 is logic 1 and rotate the DC motor clockwise if pin DIGITAL pin 9 is logic 1. While stopping the DC motor if both pin 8 and 9 are logic 0, the DC motor is connected to the motor driver using L293D.

2. Create a program and design a circuit that will rotate a two DC motor clockwise, counterclockwise and stop with each delay of 4 s using DIGITAL pins 7,8,9, and 10. The DC motor is connected to the motor driver using L293D.

3. Create a program and design a circuit that will rotate servo motor from 0 deg to 45 deg to 180 deg, having an interval of 2 s per degree movement.

IV. Discussion

V. Conclusion