Robot Programming Lab #1 Jogging the robot JD Jones and John Nelson

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Point Value = \_\_\_\_\_\_/50 points

In this lab you will be powering up the robot and moving it in Joint and World mode.

To power up the robot, turn on the large switch on the front of the controller. The robot will not move upon power up.

Now you will move the robot after it is completely booted up.

In the top right of the screen there will be a small black box that should read “joint.” If it does not press the “coord” key until it says “joint.”

The way joint mode works is joint 1 is the base and joint 6 is the rotation of the wrist at the other end. You will be able to understand this easily once you start moving the robot.

Now to move the robot.

On the teach pendant you will need to do 3 things at the same time in order to move the robot.

1) Press the deadman switch to the middle position. The deadman is located on the back side of the teach pendant. There are 2 long skinny yellow buttons. You only have to press **1** of them to the middle position. Press the button to each of the 3 positions. First is all the way out, second is one click and the third is all the way in. Now press the switch to the middle and the Fault light should go out. If it doesn’t then press the reset button.

2) The second simultaneous action is to press the shift button. The robot will stop if the shift or deadman is released.

3) The third simultaneous action is to press one of the joint buttons on the bottom right side. Joint 1 is the top buttons and joint 6 is the bottom buttons.

When all 3 of these actions are done then the robot will move.

You can change the speed of the robot by the triangle % buttons. This will change the green box in the top right corner of the teach pendant. Some robots only go to 50%.

You can open and close the gripper by pressing Tool 1 and Tool 2 buttons in the middle of the TP. teach pendant.

**TASK #1** Pick up an item from the floor of the robot and place it on a higher level. Show the instructor.

Change the mode to world mode. Now the robot will move in straight lines per Cartesian coordinate system with X, Y, Z in reference to the intersection of joint 1 and joint 2.

**Task #2** Do the same as you did before. Pick up an item from the floor of the robot and place it on a higher level. Show the instructor.

NOTE: A few things to know.

1) If you have a fault, press Shift + Reset to clear it. If it does not clear, look at the fault and try to fix the problem. If you still cannot clear it then go into the alarm log by Menu, Alarm, Alarm log.

2) If you get a fault stating, “Locked by another task.” or “Run Request Failed” Press the FCTN button and Abort all and Enter.

Be ready to demonstrate the following to the instructor.

Points for

A) Change the mode from joint to world and verbally explain the difference. 20 pts

B) Change the speed of the robot. 5 pts

C) Open and close the gripper. 5 pts

D) Completion of task 1. 10 pts

E) Completion of task 2. 10 pts

INSTRUCTOR’S INITIAL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_