**EE118IU**

**EMBEDDED SYSTEM LABORATORY**

**LAB 5**

**Real Time Operating System Programming Using RTX-RTOS**

**Student:**

**Student ID:**

**Class:**

**Date:**

I. LAB OBJECTIVES

Upon completion of this lab, you will able to:

* Student have ability to develop multi-task programming using RTOS
* Develop an appliactions using RTOS multi-task programming

1. Task 1

In this Lab student will run RTX\_RTOS Blinky Demo code and read the RTX\_RTOS manual documents in order to learn how to use the RTX\_RTOS and understand the functions in RTX\_RTOS.

1. Task 2

Run Demo code Automatic Pump control system in Lab 3 (using polling and interrupt programming model) then reprogram the Automatic Pump control using RTX\_RTOS. (Hint: Student should decompose the program into muti-task and interrupt handing routing, then program the code for each task).

1. Task 3

Run and test CAN communication example codes using RTOS.

1. Task 4

Design Embedded system based automatic Pump control application usimg RTOS multitask programming

**IV. LAB PERFORMANCE GRADING AND LAB REPORT GUIDELINES**

For each Lab experiment Students show the successful running results to Lab Instructor for Lab Performance grading.

Students write a report which includes : Algorithm flowchart and C++ Code for each experiment. In each block of the code or line of code, give the comments for the meaning of this block of code.