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

Student ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Semester: Fall 2024

Course: EIE331

***Objectives*:**

To configure the sensor and collect data using the ARM development board and display real-time results on an LCD screen.

**A)** ***Sensor Configuration and Data Acquisition:***

Sensor Type and Data Conversion: Describe the type of sensor used in the experiment (e.g., temperature sensor or IR distance sensor). Indicate if the sensor data is analog or digital and explain how the data is converted to a readable numeric value for display on the LCD screen. Describe whether setting a sampling rate is necessary, and if so, how the sampling rate is configured for optimal data acquisition.

**B)** ***Experiment Results and Data Display:***

Real-Time Data Display Implementation: Describe how the real-time display of sensor data on the LCD is achieved. Provide an overview of the code used to implement the display mode (e.g., temperature updates every second). How do you manage data update cycles, and what techniques are used to ensure data is displayed clearly?

**C)** ***Summary and Reflection:***

Knowledge and Skills Gained:

Summarize the new knowledge and skills you gained from this experiment.

Challenges and Solutions:

Describe the main challenges you faced in hardware connections, software development, or debugging. How did you overcome these challenges? What areas do you think could be improved in future experiments?