**pH Chemistry: Acid – Base Titrations and Buffers**

**50 Marks Total**

This is a modified formal lab report, review the information in Appendix A of the CHEM 123L manual for writing this type of report. Sample graph and calculations can be found on pages 68 – 70 of the manual.

***1 mark*:** information fields filled in

Introduction: ***4 marks***

Part A or B Plot: ***2 marks***

* labels on graph: ***2 marks***

Sketched graph of Part A or part B: ***2 marks***

Calculation of the concentration of the unknown NaOH or HCl solution: ***1mark***

Accuracy of concentration of Unknown HCl or NaOH: ***2 marks***

Comparison of two equivalence point volumes (indicator vs graph): ***1 mark***

**Questions Parts A/B:**

1 a) ***2 marks***

b) ***2 marks***

c) ***2 marks***

d) ***2 marks***

e) ***2 marks***

f) ***1 mark***

**Part C**

pH of the ***stock acetic acid solution: 1 mark***

pH of the ***stock sodium acetate***: ***1mark***

pH of the ***undiluted buffer: 1******mark***

pH of the ***diluted buffer: 1 mark***

Comparison of pH values: ***2 marks***

Graph: ***2 marks***

Estimate the buffer capacity: ***2 marks***

**Questions Part C:**

1. ***2 marks***

2. ***2 marks***

3. ***2 marks***

**Conclusion: *3 marks***

**Experimental Procedure Summary: *2 marks***

**Clarity and Understanding: *3 marks***