



Sample answer – Mod 6 acid/base

Stage 6 Chemistry - Guided by 2019 NESA examination question and responses

Our excursion at [Orchard Hills Water Filtration Plant](#) applies some content from Module 6 in the NSW Stage 6 Chemistry syllabus. References to excursion experiences can help answer the following HSC exam questions.

Question 22 (4 marks)

A buffer was prepared with acetic acid and sodium acetate. A few drops of universal indicator were then added. When small amounts of either $0.1 \text{ mol L}^{-1} \text{ HCl}(aq)$ or $0.1 \text{ mol L}^{-1} \text{ NaOH}(aq)$ were added, no change in the colour of the solution was observed.

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Explain these observations. Support your answer with at least ONE chemical equation.

Criteria	Marks
<ul style="list-style-type: none">Identifies that the observed effect is due to small variation in pHExplains what occurs when acid and base are addedIncludes at least one equation	4
<ul style="list-style-type: none">Identifies that the observed effect is due to small variation in pHExplains what occurs when acid or base is addedIncludes a substantially correct equation	3
<ul style="list-style-type: none">Provides a correct equationORIncludes a partially correct equation and shows some understanding of what occurs when acid or base is added	2
<ul style="list-style-type: none">Provides some relevant information	1

Source: NESA Chemistry HSC examination paper 2019 p.15

Content revision

- Refresh your knowledge of the [Orchard Hills Water Filtration Plant](#).
- Try some of the supporting [High school](#) resources, content and activities.
- Haven't been on excursion with us? Make a free [excursion request](#) online.

Please note: information provided in this document is from Sydney Water, STANSW information and NESA accredited sites.

