Commentary on candidate evidence

The candidate evidence has achieved the following marks for each question of this course assessment component.

Question 5

Candidate 1

The candidate was awarded **0 marks**.

The candidate has not demonstrated any understanding of the chemistry involved in the context of the question.

Candidate 2

The candidate was awarded **0 marks**.

The candidate has not demonstrated any understanding of the chemistry involved in the context of the question.

Candidate 3

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has linked testing the pH to the effectiveness of the indigestion tablets.

Candidate 4

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has indicated that carbon dioxide gas would be produced and could be used to follow the progress of the reaction.

Candidate 5

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has given a very brief idea of a method, '… set up an experiment …' and suggested hydrochloric acid could be used in place of stomach acid. They have identified that carbon dioxide gas would be produced and could be used to measure the rate of reaction by timing the gas collection. They have diagrams of two viable methods of collection.

Candidate 6

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has attempted to give a description of how a titration could be carried out. They have indicated that the calcium carbonate (indigestion tablet ingredient) should be dissolved first. The candidate has also considered carrying out repeat titrations to achieve more accurate results.

Candidate 7

The candidate was awarded **3 marks**.

This is a good response. The candidate has given a viable procedure and analysis of possible results. They have considered repeat experiments and the need to control variables for each of the tablets.

Candidate 8

The candidate was awarded **3 marks**.

This is a good response. The candidate has given a well described procedure with control of variables and analysis of results that could be obtained.

Question 13

Candidate 1

The candidate was awarded **0 marks**.

The candidate has not demonstrated any understanding of the chemistry involved in the context of the question.

Candidate 2

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has demonstrated some relevant chemistry by stating reduction is a gain of electrons and oxidation is a loss of electrons.

Candidate 3

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has demonstrated some relevant chemistry.

Candidate 4

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has demonstrated a reasonable understanding of the chemistry involved. They have provided correct definitions of oxidation and reduction and have linked redox to electrochemical cells. They have also provided a correct example of a redox reaction for a cell.

Candidate 5

The candidate was awarded **3 marks**.

This is a good response.

The candidate has demonstrated a good knowledge of redox reactions by explaining reduction, oxidation and redox and has also provided correct example equations for all three.

Candidate 6

The candidate was awarded **3 marks**.

This is a good response.

The candidate has shown a good understanding of chemistry involved. They provided correct definitions of oxidation and reduction. They have explained the direction of electron transfer, correctly linking this to the electrochemical series and have used this to construct a correct redox equation based on two half equations.