

Chemistry

Section I – Part B (continued)

Marks

Question 19 (7 marks)

Name ONE type of cell, other than the dry cell or lead–acid cell, you have studied. Evaluate it in comparison with either the dry cell or lead–acid cell, in terms of chemistry and the impact on society. Include relevant chemical equations in your answer.

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another cell other than the dry cell or lead acid cell is mercury cell. In terms of the impact on society the mercury cell, dry cell and lead acid cell are the same. Society chooses to use these cell as a way to help themselves. Of course they benefit mostly from chemistry but that still doesn't stop people in society using them for themselves.

Question 20 (4 marks)

A 0.1 mol L^{-1} solution of hydrochloric acid has a pH of 1.0, whereas a 0.1 mol L^{-1} solution of citric acid has a pH of 1.6.

- (a) State ONE way in which pH can be measured. 1

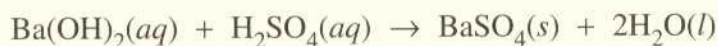
pH can be calculated by adding an indicator and checking the colour which changes at a certain level of pH.

- (b) Explain why the two solutions have different pH values. 3

** HCl is highly acidic, higher than citric acid. Therefore giving it a ^{lower} level of pH.*

Question 21 (4 marks)

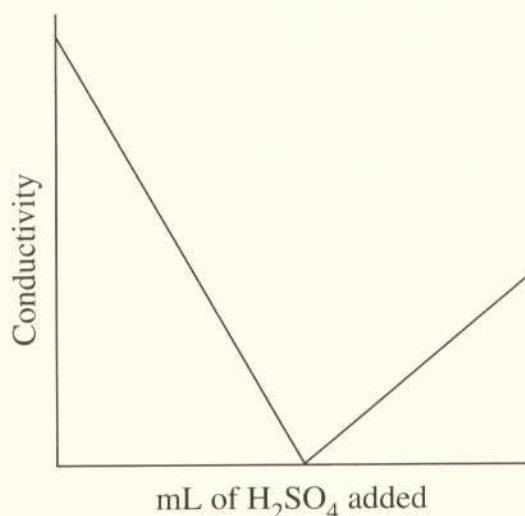
Barium hydroxide and sulfuric acid react according to the following equation:



- (a) Name this type of chemical reaction. 1

Neutralising

- (b) A 20 mL sample of barium hydroxide was titrated with 0.12 mol L⁻¹ sulfuric acid. The conductivity of the solution was measured throughout the titration and the results graphed, as shown. 3



Explain the changes in conductivity shown by the graph.

The conductivity slowly decreased until the end point has reached then slowly ~~is~~ increases back up.