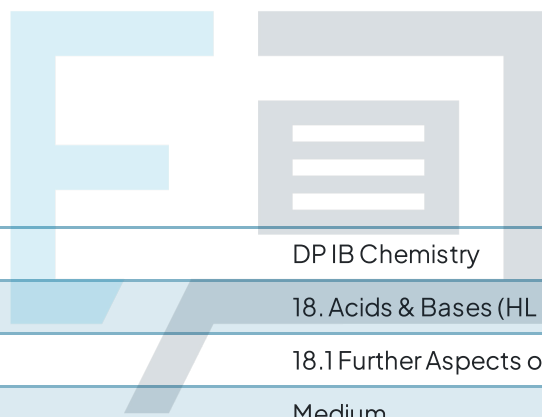




18.1 Further Aspects of Acids & Bases

Question Paper



Course	DP IB Chemistry
Section	18. Acids & Bases (HL only)
Topic	18.1 Further Aspects of Acids & Bases
Difficulty	Medium

Exam Papers Practice

To be used by all students preparing for DP IB Chemistry HL
Students of other boards may also find this useful

Question 1

Which of the following statements is **not** correct?

- A. A Brønsted-Lowry base is a proton acceptor
- B. Ammonia can act as a Brønsted-Lowry base and Lewis base
- C. A Lewis acid is an electron pair acceptor
- D. A hydroxide ion can only act as a Lewis base

[1 mark]

Question 2

Which of the following statements are correct for a titration between 0.10 mol dm^{-3} propanoic acid and 0.10 mol dm^{-3} potassium hydroxide?

- A. The equivalence point will be at pH 7
- B. The salt formed will hydrolyse to form an acidic salt
- C. The salt formed will be CH_3COOK
- D. At half equivalence point $[\text{CH}_3\text{CH}_2\text{COOH}(\text{aq})] = [\text{CH}_3\text{CH}_2\text{COO}^-(\text{aq})]$

[1 mark]

Question 3

Which of the following statements about indicators are correct?

- I. The pK_a of the indicator is the midpoint of the pH range
- II. The colour of the indicator depends upon the pH of the solution
- III. At the end point of a titration $[\text{HIn}] = [\text{In}^-]$

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

[1 mark]

Question 4

Which statement about buffer solutions is **not** correct?

- A. A buffer resists small changes in pH
- B. A buffer can be formed from sodium hydroxide and an excess of ethanoic acid
- C. The pH during a titration between a strong acid and weak base changes slowly in the buffer region
- D. When a strong acid is added to a buffer, hydrogen ions react with salt ions

[1 mark]

Question 5

The pH range of four different indicators are:

Indicator	pK_a
Methyl orange	3.7
Phenolphthalein	9.6
Phenol red	7.9
Bromothymol blue	7.0

Which indicator would be suitable for a titration involving hydrochloric acid and ammonia?

- A. Methyl orange
- B. Phenolphthalein
- C. Phenol red
- D. Bromothymol blue

[1 mark]