

7.2

**THE STRENGTH OF  
ACIDS AND ALKALIS**

# QUESTION 1

**Which of the following is true?**

- I      The pH scale is used to measure the acidity or alkalinity of a solution**
- II     The pH scale consists of values from 0 to 14.**
- III    The pH value is a measure of the concentration of hydrogen ions and hydroxide ions.**
- IV     A pH value of 7 indicates an acidic solution.**

**A    I and II only**

**B    II and IV only**

**C    I, II and III only**

**D    I, III and IV only**

# QUESTION 2

**The pH value of a solution can be determined by using**

- I a pH meter**
- II pH paper**
- III red litmus paper**
- IV blue litmus paper**

- A I and II only**
- B II and IV only**

- C I, II and III only**
- D I, III and IV only**

# QUESTION 3

**Two drops of universal indicator are added to a solution in a test tube. The solution turns purple. This indicates that the solution in the test tube is**

- A neutral
- B alkaline
- C slightly acidic
- D very acidic

# QUESTION 4

**A small pH value indicates that**

- A a substance is alkaline
- B the concentration of hydrogen ions is high
- C the concentration of hydrogen ions is low
- D the concentration of hydroxide ions is high

# QUESTION 5

**A big pH value indicates that**

- A a substance is acidic
- B the concentration of hydrogen ions is high
- C the concentration of hydroxide ions is high
- D the concentration of hydroxide ions is low

# QUESTION 6

**Hydrochloric acid is a strong acid because**

- A it ionises completely in water
- B it ionises only partially in water
- C it contains a low concentration of hydrogen ions
- D it contains a high concentration of hydroxide ions

# QUESTION 7

**Which of the following is true about the dilute ethanoic acid,  $\text{CH}_3\text{COOH}$ ?**

- I It ionises only partially in water.**
- II Ethanoic acid molecules are still present in the acid.**
- III It is a strong acid.**
- IV It has a low concentration of hydrogen ions.**

- |          |                       |          |                            |
|----------|-----------------------|----------|----------------------------|
| <b>A</b> | <b>I and II only</b>  | <b>C</b> | <b>I, II and IV only</b>   |
| <b>B</b> | <b>I and III only</b> | <b>D</b> | <b>II, III and IV only</b> |



# QUESTION 8

**Sodium hydroxide is a strong alkali because**

- A it ionises partially in water
- B it completely ionises in water
- C it has a high concentration of hydrogen ions
- D it has a low concentration of hydroxide ions

# QUESTION 9

**Which of the following is true about ammonia solution?**

- I It is a strong alkali.**
- II It ionises completely in water.**
- III It ionises only partially in water.**
- IV It has a low concentration of hydroxide ions**

**A I and II only**

**C II and III only**

**B I and IV only**

**D III and IV only**

# QUESTION 10

**A strong acid**

**I ionises completely in water**

**II has a small pH value**

**III has a high concentration of hydrogen ions**

**IV contains molecules of the acid**

**A I and II only**

**C I, II and III only**

**B II and IV only**

**D I, III and IV only**

# QUESTION 11

**A strong alkali**

**I contains ions of the alkali**

**II ionises completely in water**

**III has a big pH value**

**IV has a low concentration of hydroxide ions**

**A I and II only**

**B II and IV only**

**C I, II and III only**

**D I, III and IV only**

# QUESTION 12

**Which of the following is true about dilute ethanoic acid,  $\text{CH}_3\text{COOH}$ ?**

**I It has a pH value less than 7.**

**II It ionises partially.**

**III It has a low concentration of hydrogen ions.**

**IV It does not react with magnesium ribbon.**

**A I and II only**

**B II and IV only**

**C I, II and III only**

**D I, III and IV only**

# QUESTION 13

**A solution has a pH value of 8.**

**Which of the following is true about the properties of the solution?**

- A Does not react with acids
- B Turns blue litmus paper red
- C Has a high concentration of hydrogen ion
- D Has a low concentration of hydroxide ions

# QUESTION 14

**Which of the following has a low degree of ionisation in water?**

- A Sulphuric acid
- B Methanoic acid
- C Hydrochloric acid
- D Sodium hydroxide

# ANSWERS

1	C	6	A	11	C
2	A	7	C	12	C
3	B	8	B	13	D
4	B	9	D	14	B
5	C	10	C		