NOVA SCOTIA ADVANCED CHEMISTRY 12 · UNIT B

Equilibrium: Acids and Bases in Chemical Changes — Practice Test

Nova Scotia Advanced Chemistry 12 • 25 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **For a solution with hydrogen ion concentration 0.000001 moles per litre, the pH value is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **For a solution with hydrogen ion concentration 0.0000001 moles per litre, the pH value is**

ANSWER _____

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3 **For a solution with hydrogen ion concentration 0.00000001 moles per litre, the pH value is**

ANSWER _____

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4 **A solution of pH 4 has a pOH of**

ANSWER _____

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5 **A solution of pH 6 has a pOH of**

ANSWER _____

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6 **A solution of pH 12 has a pOH of**

ANSWER _____

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7 **A solution has pOH 2. The hydroxide ion concentration, in moles per litre, is**

ANSWER _____

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8 **A solution has pOH 3. The hydroxide ion concentration, in moles per litre, is**

ANSWER _____

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9 **A solution has pOH 1. The hydroxide ion concentration, in moles per litre, is**

ANSWER _____

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10 **At equilibrium a product concentration is 0.4 moles per litre and the reactant concentration is 0.2 moles per litre. For a reaction making 2 product particles from 1 reactant particle the equilibrium constant is**

ANSWER _____

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11 **At equilibrium a product concentration is 0.6 moles per litre and the reactant concentration is 0.3 moles per litre. For a reaction making 2 product particles from 1 reactant particle the equilibrium constant is**

ANSWER _____

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12 **At equilibrium a product concentration is 0.2 moles per litre and the reactant concentration is 0.1 moles per litre. For a reaction making 2 product particles from 1 reactant particle the equilibrium constant is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **20 millilitres of acid neutralise 20 millilitres of 0.1 moles per litre base in a 1 to 1 reaction. The acid concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **25 millilitres of acid neutralise 20 millilitres of 0.1 moles per litre base in a 1 to 1 reaction. The acid concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **10 millilitres of acid neutralise 20 millilitres of 0.1 moles per litre base in a 1 to 1 reaction. The acid concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A weak acid of concentration 0.1 moles per litre has hydrogen ion concentration 0.01 moles per litre. The acid dissociation constant is about**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A weak acid of concentration 0.4 moles per litre has hydrogen ion concentration 0.02 moles per litre. The acid dissociation constant is about**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A weak acid of concentration 0.2 moles per litre has hydrogen ion concentration 0.02 moles per litre. The acid dissociation constant is about**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **According to Le Chatelier, increasing pressure on a gas equilibrium shifts it towards**

- **A** fewer gas particles
- **B** more gas particles
- **C** the catalyst
- **D** higher temperature

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20 **The ionic product of water at 25 degrees Celsius is**

- **A** 1×10^{-7}
- **B** 1×10^{-14}
- **C** 14
- **D** 7

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21 **A conjugate acid base pair differs by**

- A one electron
- B one neutron
- C one proton
- D one molecule

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22 **The pH of a buffer stays nearly constant because it contains a**

- A strong acid and strong base
- B salt only
- C catalyst
- D weak acid and its conjugate base

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23 **In an ICE table the change row for a reactant that is used up is**

- A negative
- B positive
- C zero
- D unknown

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24 **Diluting a weak acid equilibrium shifts ionisation to**

- A decrease percent ionisation
- B increase percent ionisation
- C stop ionisation
- D double concentration

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25 **The endpoint of a titration is shown by a sudden**

A temperature fall

B gas release

C colour change of the indicator

D precipitate always

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. 6
2. 7
3. 8
4. 10
5. 8
6. 2
7. 0.01
8. 0.001
9. 0.1
10. 0.8
11. 1.2
12. 0.4
13. 0.1
14. 0.08
15. 0.2
16. 0.001
17. 0.001
18. 0.002
19. A
20. B
21. C
22. D
23. A
24. B
25. C

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