CHEMISTRY · ARIZONA

Chemistry

Practice Test

Unit 2: Bonding and Chemical Reactions

25 Questions

Original practice test based on the Arizona curriculum. Work through each question, then check your answers at the end.

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.

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Question 1

An ionic bond is best described as the attraction between

A) Two neutral atoms

B) Two nuclei

C) Oppositely charged ions

D) Shared pairs of electrons

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Question 2

A covalent bond forms when atoms

A) Transfer protons

B) Lose neutrons

C) Gain whole shells

D) Share electrons

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Question 3

In the balanced equation

$____ \, H_2 + O_2 \rightarrow 2\,H_2O$,

the coefficient of hydrogen is ____

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Question 4

The shape of a carbon dioxide molecule is

A) Bent

B) Linear

C) Tetrahedral

D) Trigonal planar

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Question 5

Which molecule is polar

A) H_2

B) O_2

C) N_2

D) HCl

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Question 6

The strongest intermolecular force between hydrogen fluoride molecules is

A) Metallic bonding

B) Ionic bonding

C) Hydrogen bonding

D) London dispersion forces

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Question 7

The name of the compound Na_2O is

A) Sodium dioxide

B) Disodium oxygen

C) Sodium monoxide

D) Sodium oxide

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Question 8

The formula of magnesium chloride is

A) MgCl

B) $MgCl_2$

C) Mg_2Cl

D) Mg_2Cl_2

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Question 9

The oxidation number of sulfur in sulfuric acid, H_2SO_4, is ____

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Question 10

In the reaction

$Zn + 2\,HCl \rightarrow ZnCl_2 + H_2$,

the reaction type is

A) Single displacement

B) Synthesis

C) Decomposition

D) Combustion

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Question 11

The reaction

$2\,Na + Cl_2 \rightarrow 2\,NaCl$

is an example of

A) Neutralization

B) Decomposition

C) Synthesis

D) Double displacement

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Question 12

The reaction

$CaCO_3 \rightarrow CaO + CO_2$

is an example of

A) Synthesis

B) Decomposition

C) Single displacement

D) Combustion

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Question 13

When a hydrocarbon burns completely in oxygen, the products are

A) Hydrogen and oxygen

B) Carbon and water

C) Carbon dioxide and water

D) Carbon monoxide only

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Question 14

The oxidation number of nitrogen in nitrogen dioxide, NO_2, is ____

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Question 15

Metallic bonding is best described as metal ions in a sea of

A) Protons

B) Neutrons

C) Delocalized electrons

D) Water

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Question 16

Which compound is ionic

A) CO_2

B) CH_4

C) H_2O

D) MgO

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Question 17

Nitrogen has atomic number 7. How many valence electrons does a nitrogen atom have

A) 3

B) 5

C) 7

D) 2

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Question 18

The two oxygen atoms in an oxygen molecule are joined by a

A) Triple bond

B) Ionic bond

C) Single bond

D) Double bond

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Question 19

The total number of valence electrons in a water molecule, H_2O, is ____

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Question 20

Which element is the most electronegative

A) Cl

B) N

C) F

D) O

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Question 21

Which substance has only London dispersion forces between its molecules

A) H_2

B) HCl

C) H_2O

D) NH_3

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Question 22

The name of the compound CO is

A) Carbon dioxide

B) Carbon monoxide

C) Carbon oxide

D) Dicarbon monoxide

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Question 23

In the balanced equation

$CH_4 + 2\,O_2 \rightarrow CO_2 + ____\,H_2O$,

the coefficient of water is ____

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Question 24

The reaction

$AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$

is best described as

A) Double displacement

B) Single displacement

C) Synthesis

D) Decomposition

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Question 25

Which substance has the highest boiling point because of hydrogen bonding

A) H_2S

B) CH_4

C) CO_2

D) H_2O

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ANSWER KEY

1. C
2. D
3. 2
4. B
5. D
6. C
7. D
8. B
9. 6
10. A
11. C
12. B
13. C
14. 4
15. C
16. D
17. B
18. D
19. 8
20. C
21. A
22. B
23. 2
24. A
25. D

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