CHEMISTRY 2202 · NEWFOUNDLAND AND LABRADOR

Chemistry 2202

Practice Test

Unit B: From Structures to Properties

25 Questions

Original practice test based on the Newfoundland and Labrador 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

Recall the definition. An ionic bond forms by

A) transfer of electrons between atoms

B) sharing electrons equally

C) sharing electrons unequally only

D) pooling electrons in a metal only

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Question 2

Think about the definition. A covalent bond forms by

A) transfer of electrons only

B) sharing electrons between atoms

C) attraction between ions only

D) breaking all bonds

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Question 3

Use the standard definition. The shape of a water molecule is

A) linear

B) tetrahedral

C) bent

D) trigonal planar

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Question 4

Apply the definition carefully. The shape of methane, CH_4, is

A) linear

B) bent

C) square planar

D) tetrahedral

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Question 5

Consider the meaning of the term. The shape of carbon dioxide, CO_2, is

A) linear

B) bent

C) tetrahedral

D) trigonal pyramidal

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Question 6

Review the key idea. Water is a polar molecule mainly because

A) it is linear

B) it is bent and oxygen attracts electrons more strongly

C) it has no lone pairs

D) hydrogen is more electronegative than oxygen

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Question 7

Check the definition first. The strongest intermolecular force in liquid water is

A) London dispersion only

B) dipole dipole only

C) hydrogen bonding

D) ionic bonding

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Question 8

Start from the definition. Ionic compounds in the molten state generally

A) never conduct electricity

B) are gases at room temperature

C) are soft and low melting

D) conduct electricity

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Question 9

Remember how the term is defined. Metallic bonding is best described as

A) positive ions in a sea of delocalised electrons

B) sharing one pair of electrons

C) transfer of protons

D) hydrogen bonding between metals

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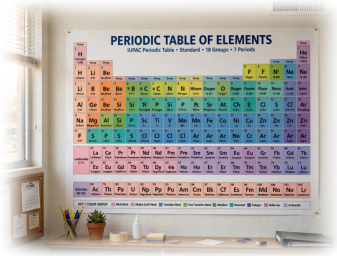

Question 10

Use what the term means. Across a period from left to right, electronegativity generally

A) decreases

B) increases

C) stays the same

D) becomes zero

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Question 11

Think about the rule. Compared with a single bond, a triple bond between the same atoms is generally

A) weaker and longer

B) weaker and shorter

C) stronger and shorter

D) stronger and longer

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Question 12

Recall the rule. The shape of ammonia, NH_3, is

A) tetrahedral

B) bent

C) linear

D) trigonal pyramidal

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Question 13

A carbon atom has how many valence electrons?

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Question 14

A sodium atom loses how many electrons to form a sodium ion, Na^+?

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Question 15

Review the rule. An ionic bond forms by

A) sharing electrons equally

B) sharing electrons unequally only

C) transfer of electrons between atoms

D) pooling electrons in a metal only

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Question 16

Think about the concept. A covalent bond forms by

A) transfer of electrons only

B) attraction between ions only

C) breaking all bonds

D) sharing electrons between atoms

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Question 17

Recall the concept. The shape of a water molecule is

A) bent

B) linear

C) tetrahedral

D) trigonal planar

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Question 18

Apply the concept. The shape of methane, CH_4, is

A) linear

B) tetrahedral

C) bent

D) square planar

Understand It with Pulse

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Question 19

Consider the concept in general. The shape of carbon dioxide, CO_2, is

A) bent

B) tetrahedral

C) linear

D) trigonal pyramidal

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Question 20

Review the concept. Water is a polar molecule mainly because

A) it is linear

B) it has no lone pairs

C) hydrogen is more electronegative than oxygen

D) it is bent and oxygen attracts electrons more strongly

Understand It with Pulse

Flag a mistake

Question 21

Think about the principle. The strongest intermolecular force in liquid water is

A) hydrogen bonding

B) London dispersion only

C) dipole dipole only

D) ionic bonding

Understand It with Pulse

Flag a mistake

Question 22

Recall the principle. Ionic compounds in the molten state generally

A) never conduct electricity

B) conduct electricity

C) are gases at room temperature

D) are soft and low melting

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Question 23

Apply the principle. Metallic bonding is best described as

A) sharing one pair of electrons

B) transfer of protons

C) positive ions in a sea of delocalised electrons

D) hydrogen bonding between metals

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Question 24

Consider the principle in general. Across a period from left to right, electronegativity generally

A) decreases

B) stays the same

C) becomes zero

D) increases

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Question 25

Review the principle. Compared with a single bond, a triple bond between the same atoms is generally

A) stronger and shorter

B) weaker and longer

C) weaker and shorter

D) stronger and longer

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ANSWER KEY

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

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