NOVA SCOTIA ADVANCED CHEMISTRY 11 · UNIT B · 25 QUESTIONS

From Structures to Properties — Practice Test

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 **An atom has 14 protons and 14 neutrons. Its mass number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **An atom has atomic number 26 and mass number 56. Its neutrons number**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **An ion has 20 protons and 18 electrons. Its charge is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **An ion has 16 protons and 18 electrons. Its charge is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A molecule has 6 bonding pairs around a central atom and no lone pairs. The number of electron domains is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A molecule has 8 bonding pairs around a central atom and no lone pairs. The number of electron domains is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **VSEPR theory predicts shape from the repulsion between**

A protons

B electron domains

C neutrons

D nuclei only

Understand It with Pulse | Flag a mistake

8 **A molecule with four bonding pairs and no lone pairs is**

A bent

B tetrahedral

C linear

D trigonal planar

Understand It with Pulse | Flag a mistake

9 **A molecule with three bonding pairs and one lone pair is**

A tetrahedral

B bent

C trigonal pyramidal

D linear

Understand It with Pulse | Flag a mistake

10 **A molecule with two bonding pairs and two lone pairs is**

A linear

B tetrahedral

C trigonal planar

D bent

Understand It with Pulse | Flag a mistake

11 **Lone pair lone pair repulsion is stronger than lone pair bonding pair repulsion, so bond angles in ammonia are**

A less than tetrahedral

B greater than tetrahedral

C exactly tetrahedral

D zero

Understand It with Pulse | Flag a mistake

12 **A dipole moment is zero for a molecule whose bond dipoles**

A are all polar

B cancel by symmetry

C are all ionic

D point one way

Understand It with Pulse | Flag a mistake

13 **Carbon in methane uses hybrid orbitals described as**

A sp2

B sp

C sp3

D s only

Understand It with Pulse | Flag a mistake

14 **Carbon in ethene uses hybrid orbitals described as**

A sp3

B sp

C d only

D sp2

Understand It with Pulse | Flag a mistake

15 **A sigma bond forms by**

A head on overlap of orbitals

B sideways overlap only

C electron transfer

D proton sharing

Understand It with Pulse | Flag a mistake

16 **A pi bond forms by**

A head on overlap only

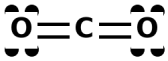
B sideways overlap of p orbitals

C ionic transfer

D neutron sharing

Understand It with Pulse | Flag a mistake

17 **The diagram shows carbon dioxide with two double bonds in a line. Its shape is**



A bent

B tetrahedral

C linear

D trigonal planar

Understand It with Pulse | Flag a mistake

18 **Metallic bonding explains electrical conductivity in metals through delocalised**

A protons

B neutrons

C ions

D electrons

Understand It with Pulse | Flag a mistake

19 **A giant covalent structure such as diamond has atoms joined by a network of**

A covalent bonds

B ionic bonds

C hydrogen bonds

D metallic bonds

Understand It with Pulse | Flag a mistake

20 **Intermolecular forces are weaker than covalent bonds within a molecule, which explains why molecular substances often have**

A high hardness

B low melting points

C electrical conductivity

D giant structures

Understand It with Pulse | Flag a mistake

21 **Electronegativity is the ability of an atom in a bond to attract**

A protons

B neutrons

C shared electrons

D other atoms fully

Understand It with Pulse | Flag a mistake

22 **Ionisation energy generally increases across a period because of increasing**

A atomic radius

B electron shielding only

C neutron count

D effective nuclear charge

Understand It with Pulse | Flag a mistake

23 **A molecule with five bonding pairs and no lone pairs is**

- A trigonal bipyramidal
- B tetrahedral
- C octahedral
- D linear

Understand It with Pulse | Flag a mistake

24 **A molecule with six bonding pairs and no lone pairs is**

- A tetrahedral
- B octahedral
- C trigonal planar
- D bent

Understand It with Pulse | Flag a mistake

25 **Bond polarity increases with the difference in**

A mass

B size only

C electronegativity

D colour

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	28	**10.**	D	**19.**	A
2.	30	**11.**	A	**20.**	B
3.	2	**12.**	B	**21.**	C
4.	-2	**13.**	C	**22.**	D
5.	6	**14.**	D	**23.**	A
6.	8	**15.**	A	**24.**	B
7.	B	**16.**	B	**25.**	C
8.	B	**17.**	C		
9.	C	**18.**	D		

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