CHEMISTRY ONLINE
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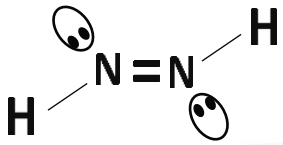
CHEMISTRY

MULTIPLE CHOICE - 3

CHEMICAL BONDING

Chemical Bonding - 3

1) Helping concepts



The molecular is planar w.r.t each N, with bond angle about 1200. *The lone pair of electrons exert a greater electronic repulsion and makes the* $H - N - N$ *angle less than* 1200.

2) Helping concepts

The weak van der Waals' forces between the layers of C atoms allow the layers to slide over one another without shattering the lattice.

3) *Helping concept*

Ionic bond is formed between a metal and a non $-$ *metal, e.g.* $Na + H-$. *In* (A) *and* (B), *both* $Al3+$ *and* $B3+$ *are too highly polarizing so much so that the bonds between Al and Cl and that between B and F are predominantly covalent. In* (C), *the bonds are formed between non* $-$ *metals and are hence covalent.*

4) *Helping concept*

$$H - C \equiv C - H$$

The $C \equiv C$ *triple contains* $1\ \sigma$ *and* $2\ \pi$ *bonds. Hence, there are* $2\ \pi$ *bonds and* $3\ \sigma$ *bonds* $(1\ C \equiv C$ *and* $2\ C - H$ *bonds*).

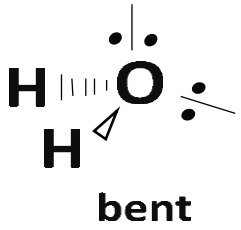
5) *Helping Concepts*

X has a completely filled $d-$ *subshell* $(d10s2)$ *and it behaves like a Group II element. Y has* 6 *valence electrons and therefore is in Group VI. It is expected that X will lose* 2 *electrons to Y so that both have stable electronic configuration.*

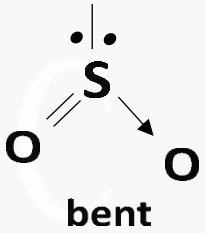
6) ***Helping Concept***

$$H - C \equiv N:$$

There are 2 regions of electron clouds around carbon. To minimise electronic repulsion, they are directed linearly. The shapes of the other molecules are



bent



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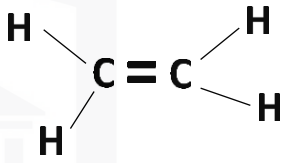
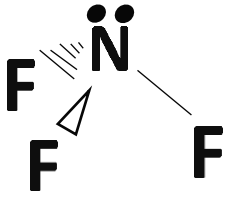
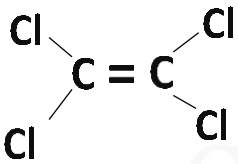


Planar
(trigonal planar w.r.t. each carbon atom)

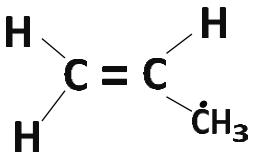
7) ***Helping Concept***



trigonal pyramidal



trigonal planar w.r.t. each C



tetrahedral w.r.t.Ċ

I am Sorry !!!!!

$CH_3 - CH_2 - CH_3$

tetrahedral w.r.t. each C

8) ***Helping Concept***

Due to the presence of hydrogen − nonding in ice, the H_2O molecules *take up an open structue and hence. ice becomes less dense than water at* $0\ ^0$C.

9) ***Helping Concept***

The extreme close proximity allows VDW interection and the many pad − galss PVD interactions allow gecko to be able to stick onlglass surface.

10) ***Helping Concept***

This shows that the forces acting between CO_2 *molecules are very weak* (VDW)*such that when enough energy is supplied, these forces are readily overcome and the melcules become very far apart from each other. i. e. gas is formed.*

I am Sorry !!!!!

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