

Phone: +442081445350

www.chemistryonlinetuition.com

Email: asherrana@chemistryonlinetuition.com

CHEMISTRY

MULTIPLE CHOICE - 7

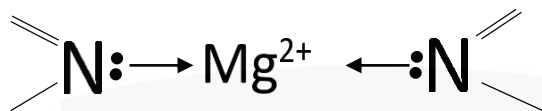
CHEMICAL BONDING

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CHEMICAL BONDING - 7

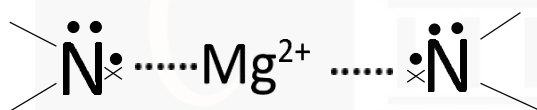
1) Helping concepts

N – 2 and N – 4 each has a lone pair of electrons to form a coordinate (dative) bond with Mg^{2+}



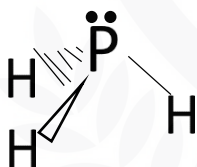
N – 1 and N – 3 each receives an electron from Mg to form Mg^{2+} to form Mg^{2+})

Hence, the interaction is ionic.



2) Helping concepts

PH_3 is trigonal pyramidal.



3) Helping concept

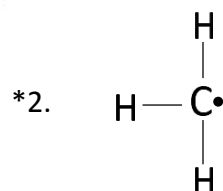
Being a metal, Cu has a lattice of the metal cations in sea of delocalised electrons.

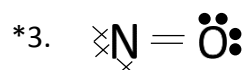
The attraction between the cations and the electrons constitutes the metallic bonds.

4) Helping concept

*1. Cu^{2+} : $[\text{Ar}]3d^9$

O^{2-} : $1s^2 2s^2 2p^6$





5) Helping Concepts

1. I_2 exists as diatomic molecules and hence does not have a giant lattice.

*2. *3. Both sodium (a metal) and sodium iodide (an ionic compound) have giant lattices.

6) Helping Concept

*1. Bonding angle of H_3O^+ is bigger since there is only 1 lone pair versus 2 lone pairs in H_2O

2. C_2H_6 : 109.5° ; C_2H_4 : 120°

3. HCO_3^- : 120° ; CO_2 : 180°

7) Helping Concept

In each layer, each C atom uses 3 electrons to form σ bonds with 3 other C atoms (hence 2 and 3 are correct). This leaves behind a lone electron on each C atom and this forms a layer of delocalised electrons (1 is correct).

8) Helping Concept

1. In cyclohexene, the electrons in the π – bonds are localised between 2 carbon atoms.

*2 Within each layer, the lone electron of each sp^2 hybridised C atom overlaps with those of the adjacent C atoms, forming a delocalised cloud of π – electrons.

*3. Being a metal, Na consists of a lattice of Na^+ immersed in a sea of mobile electron cloud.

Note: It is due to the presence of delocalised electron cloud that makes graphite and Na conductors of electricity

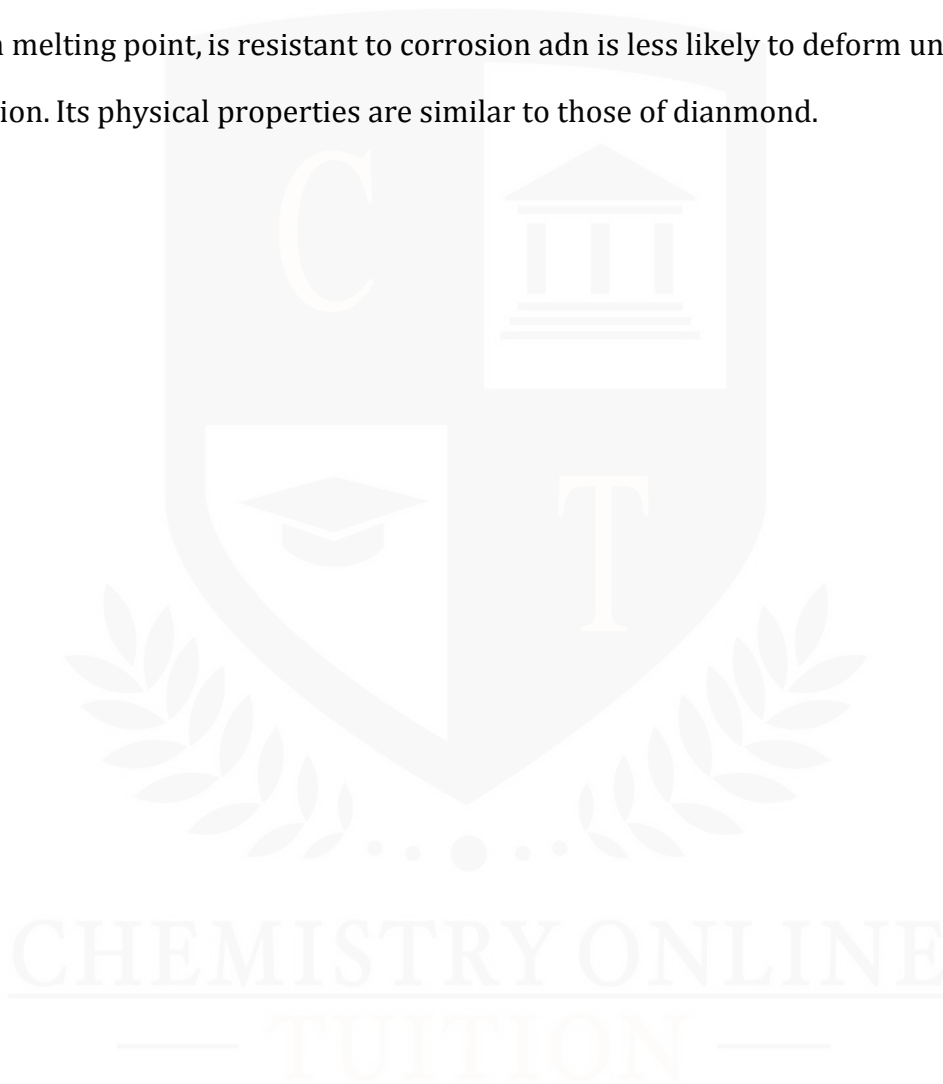
9) Helping Concept

*1. Al_2O_3 and Al_2Cl_6 is simple molecular.

2. SiO_2 is giant covalent; SiCl_4 is simple molecular.
3. P_4O_{10} and PCl_3 are simple molecular.

10) **Helping Concept**

Having a diamond structure with strong covalent bonds between Si and C atoms, SiC has a high melting point, is resistant to corrosion and is less likely to deform under compression. Its physical properties are similar to those of diamond.



I am Sorry !!!!!



DR. ASHAR RANA
M.B.B.S / MS. CHEMISTRY



- Founder & CEO of Chemistry Online Tuition Ltd.
- Completed Medicine (M.B.B.S) in 2007
- Tutoring students in UK and worldwide since 2008
- CIE & EDEXCEL Examiner since 2015
- Chemistry, Physics, Math's and Biology Tutor

CONTACT INFORMATION FOR CHEMISTRY ONLINE TUITION

- UK Contact: 02081445350
 - International Phone/WhatsApp: 00442081445350
 - Website: www.chemistryonlinetuition.com
 - Email: asherrana@chemistryonlinetuition.com
- Address: 210-Old Brompton Road, London SW5 OBS, UK