

Phone: +442081445350 www.chemistryonlinetuition.com Email: asherrana@chemistryonlinetuition.com

CHEMISTRY

PHYSICAL CHEMISTRY

LEVEL & BOARD:	OCR (AS - LEVEL)
TOPIC:	Compounds, Formulae & Equations
PAPER TYPE:	QUESTION PAPER 4
TOTAL QUESTIONS	07
TOTAL MARKS	17

Compounds, Formulae and Equations

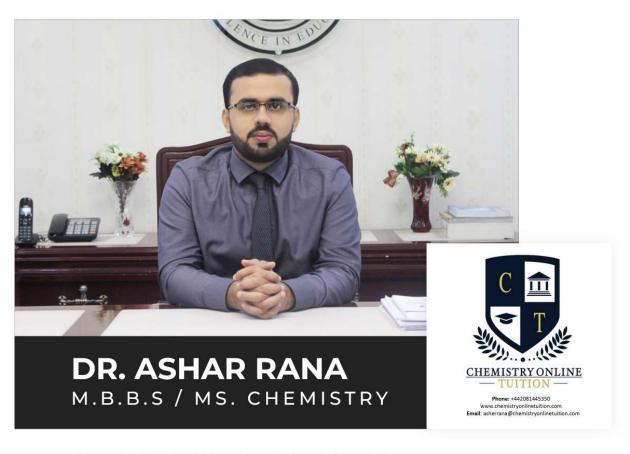
-		[1]
4.	Chlorine and mercury react with many elements and compounds. Predict the formula of the compound formed when chlorine reacts with aluminum.	
		[1]
3.	A molecule of an alkene has 22 carbon atoms. State the empirical form of this alkene.	[1] ula
2.	This question is about compounds of Group 2 elements. Radium will combine directly with oxygen. Write the equation for the reaction between Radium and oxygen.	
-		[1]
1.	lodine, with an atomic number of 53, is in Period 5 of the Periodic Table lodine is a Group 17 element. Predict the formula of an iodide ion.	ole.

5.	(a) Silver chloride, AgCl, is exposed to sunlight. A student places a sample of AgCl in direct sunlight for an experiment.		
		i. Describe what the student would observe during this reaction.	
		[1]	
	i	i. Write the equation for the reaction that occurs when AgCl is exposed to sunlight.	
-		[1]	
	(b) Co	ompounds of magnesium have various applications.	
	i.	Identify a compound of magnesium that could be used to neutralize an acidic stomach with a pH of 4.0 to a pH of 6.5 and constipation.	
-		CHEMISTRY ONLINE [1]	
	ii.	Magnesium sulfide, MgO, is an ionic compound used in specific applications.	
		Magnesium oxide can be synthesized by reacting magnesium metal with sulfur dioxide and SO_2 .	
		Write the balanced chemical equation for the reaction of magnesium with sulfur dioxide to produce magnesium oxide and S ₈ .	

,			
	iii.	[1] Draw a 'dot-and-cross' diagram to depict the bonding in magnesium Oxide, MgO.	
		Show only the outer electrons.	
		[2]	
6.		t used as a fertilizer has the empirical formula Mg ₃ (PO ₄) ₂ . est the formulae of the ions present in this salt.	
		CHEMISTRY ONLINE [2]	
7.	A ch	emist carries out reactions of strontium and strontium nitride, Sr_3N_2 .	
	Reac solut Reac	tion 1: Strontium is reacted with water. tion 2: Strontium nitride is reacted with water, forming an alkaline ion and an alkaline gas. tion 3: Strontium reacts with an excess chlorine gas at 500°C, forming nitium chloride, SrCl ₂ .	

i. Write equations for Reaction 1 and Reaction 2.

		[3]
ii.	Predict the structure and bonding of Sr ₃ N ₂ .	
iii.	SrCl ₂ formed in Reaction 3 contains strontium and chloride ions. Suggest a 'dot-and-cross' diagram for SrCl ₂ . Show outer shell electrons only.	[1]
		[1]



- · 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