

Phone: +442081445350

www.chemistryonlinetuition.com

Email:asherrana@chemistryonlinetuition.com

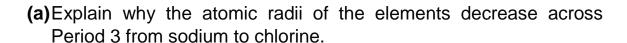
## CHEMISTRY INORGANIC CHEMISTRY

Level & Board	AQA (A-LEVEL)
TOPIC:	PERIODICITY
PAPER TYPE:	QUESTION PAPER - 1
TOTAL QUESTIONS	10
TOTAL MARKS	30

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## Periodicity - 1

1. ]	This o	guestion	is a	bout	periodicity	٧.
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(2)

**(b)**Explain why the melting point of sulfur (S<sub>8</sub>) is greater than that of phosphorus (P<sub>4</sub>).

**(2)** 

**(c)**Explain why sodium oxide forms an alkaline solution when it reacts with water.

(2)

(d)Write an ionic equation for the reaction of phosphorus(V) oxide with an excess of sodium hydroxide solution.

(1)

2.	Which of these elements has the highest second ionisation energy?			
	A. Na B. Mg C. Ne D. Ar			
	(1)			
3.	This question is about oxides.			
	(a) Explain, with reference to the bonding in sodium oxide, why this compound reacts with water to form a solution with a pH of 14.			
	(3)			
	(b)What general type of oxide forms acidic solutions in water?  Give the formula of one such oxide.			
	(2)			
4.	Which elements are shown in increasing order of the stated property?			
	<ul> <li>A. Atomic radius: phosphorus, sulfur, chlorine.</li> <li>B. First ionisation energy: sodium, magnesium, aluminium.</li> <li>C. Electronegativity: sulfur, phosphorus, silicon.</li> </ul>			

**D.** Melting point: argon, chlorine, sulfur.

	(1)
5.	Write balanced equations to show the reaction of water with sodium and sodium oxide.
	(2)
6.	Which element is in the f-block of the Periodic Table?  A. Palladium B. Phosphorus C. Platinum D. Plutonium  (1)
7.	The elements phosphorus, sulfur, chlorine and argon are in the p block of the Periodic Table.  (a) State why these elements are classified as p block elements.
	(1)
	(b)State the trend in atomic radius from phosphorus to chlorine and explain the trend.
	(3)

(c) In terms of structure and bonding,	explain	why	sulfur	has	a h	igher
melting point than phosphorus.						

(3)

- 8. Which is the correct classification for the element yttrium (Y)?
  - A. s block
  - B. p block
  - C. d block
  - **D.** f block

**(1)** 

- **9.** Write equations for the reactions of phosphorus(V) oxide and sulphur dioxide with water.
  - In each case predict the approximate pH of a 1M aqueous solution of the product.

(4)

- 10. Which is the correct order of melting points of these Period 3 elements?
  - A. phosphorus > sulfur > chlorine > argon
  - **B.** argon > chlorine > phosphorus > sulfur

C. sulfur > phosphorus > chlorine > argon

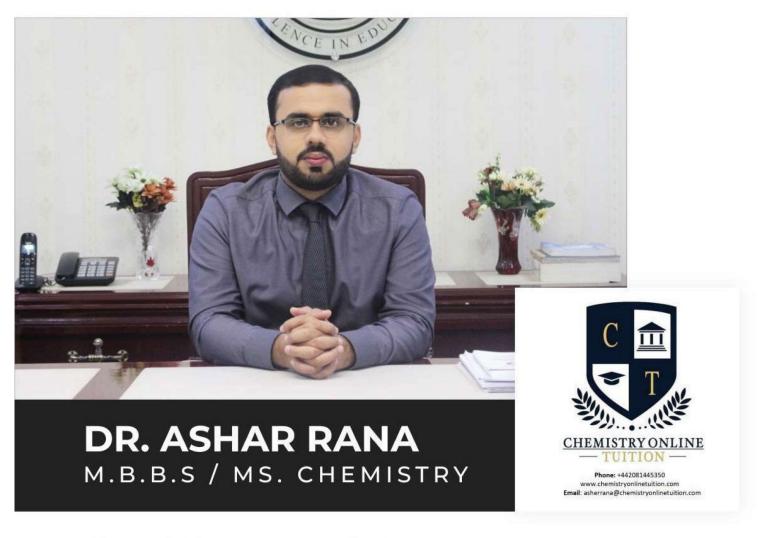
**D.** chlorine > phosphorus > sulfur > argon

(1)



am Sorry !!!!!





- · 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