

## Properties

MathonGo

## Questions

Q1 - 24 June - Shift 2

Metals generally melt at very high temperature. Amongst the following, the metal with the highest melting point will be

- (A) Hg (B) Ag  
(C) Ga (D) Cs

*Space for your notes:*

Q2 - 25 June - Shift 2

The correct order of electron gain enthalpies of Cl, F, Te and Po is

- (A)  $F < Cl < Te < Po$  (B)  $Po < Te < F < Cl$   
(C)  $Te < Po < Cl < F$  (D)  $Cl < F < Te < Po$

*Space for your notes:*

Q3 - 26 June - Shift 2

Which of the following elements is considered as a metalloid?

- (1) Sc (2) Pb (3) Bi (4) Te

*Space for your notes:*

Q4 - 27 June - Shift 1

#MathBoleTohMathonGo

## Properties

MathonGo

Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason(R)

**Assertion (A):** The ionic radii of  $O^{2-}$  and  $Mg^{2+}$  are same.

**Reason (R) :** Both  $O^{2-}$  and  $Mg^{2+}$  are isoelectronic species

In the light of the above statements, choose the correct answer from the options given below

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are true but (R) is not the correct explanation of (A)
- (C) (A) is true but (R) is false
- (D) (A) is false but (R) is true

Q5 - 27 June - Shift 2

The correct order of increasing ionic radii is

- (A)  $Mg^{2+} < Na^+ < F^- < O^{2-} < N^{3-}$
- (B)  $N^{3-} < O^{2-} < F^- < Na^+ < Mg^{2+}$
- (C)  $F^- < Na^+ < O^{2-} < Mg^{2+} < N^{3-}$
- (D)  $Na^+ < F^- < Mg^{2+} < O^{2-} < N^{3-}$

Q6 - 28 June - Shift 1

#MathBoleTohMathonGo

## Properties

MathonGo

## Questions

Element "E" belongs to the period 4 and group 16 of the periodic table. The valence shell electron configuration of the element, which is just above 'E' in the group is

- (A)  $3s^2, 3p^4$  (B)  $3d^{10}, 4s^2, 4p^4$   
 (C)  $4d^{10}, 5s^2, 5p^4$  (D)  $2s^2, p^4$

Space for your notes:

## Q7 - 28 June - Shift 2

Match List-I with List-II.

List-I (Oxide)		List-II (Nature)	
(A)	$Cl_2O_7$	(I)	Amphoteric
(B)	$Na_2O$	(II)	Basic
(C)	$Al_2O_3$	(III)	Neutral
(D)	$N_2O$	(IV)	Acidic

Space for your notes:

Choose the **correct** answer from the options given below :

- (A) (A) – (IV), (B) – (III), (C) – (I), (D) – (II)  
 (B) (A) – (IV), (B) – (II), (C) – (I), (D) – (III)  
 (C) (A) – (II), (B) – (IV), (C) – (III), (D) – (I)  
 (D) (A) – (I), (B) – (II), (C) – (III), (D) – (IV)

## Q8 - 29 June - Shift 2

#MathBoleTohMathonGo

## Properties

MathonGo

Given below are two statements. One is labelled as

Space for your notes:

Assertion A and the other is labelled as Reason R.

**Assertion A :** The first ionization enthalpy for oxygen is lower than that of nitrogen.

**Reason R :** The four electrons in 2p orbitals of oxygen experience more electron-electron repulsion.

In the light of the above statements, choose the correct answer from the options given below.

(A) Both A and R are correct and R is the correct explanation of A.

(B) Both A and R are correct but R is NOT the correct explanation of A.

(C) A is correct but R is not correct.

(D) A is not correct but R is correct

#MathBoleTohMathonGo

Properties

MathonGo

Questions

Answer Key

Q1 (B)

Q2 (B)

Q3 (D)

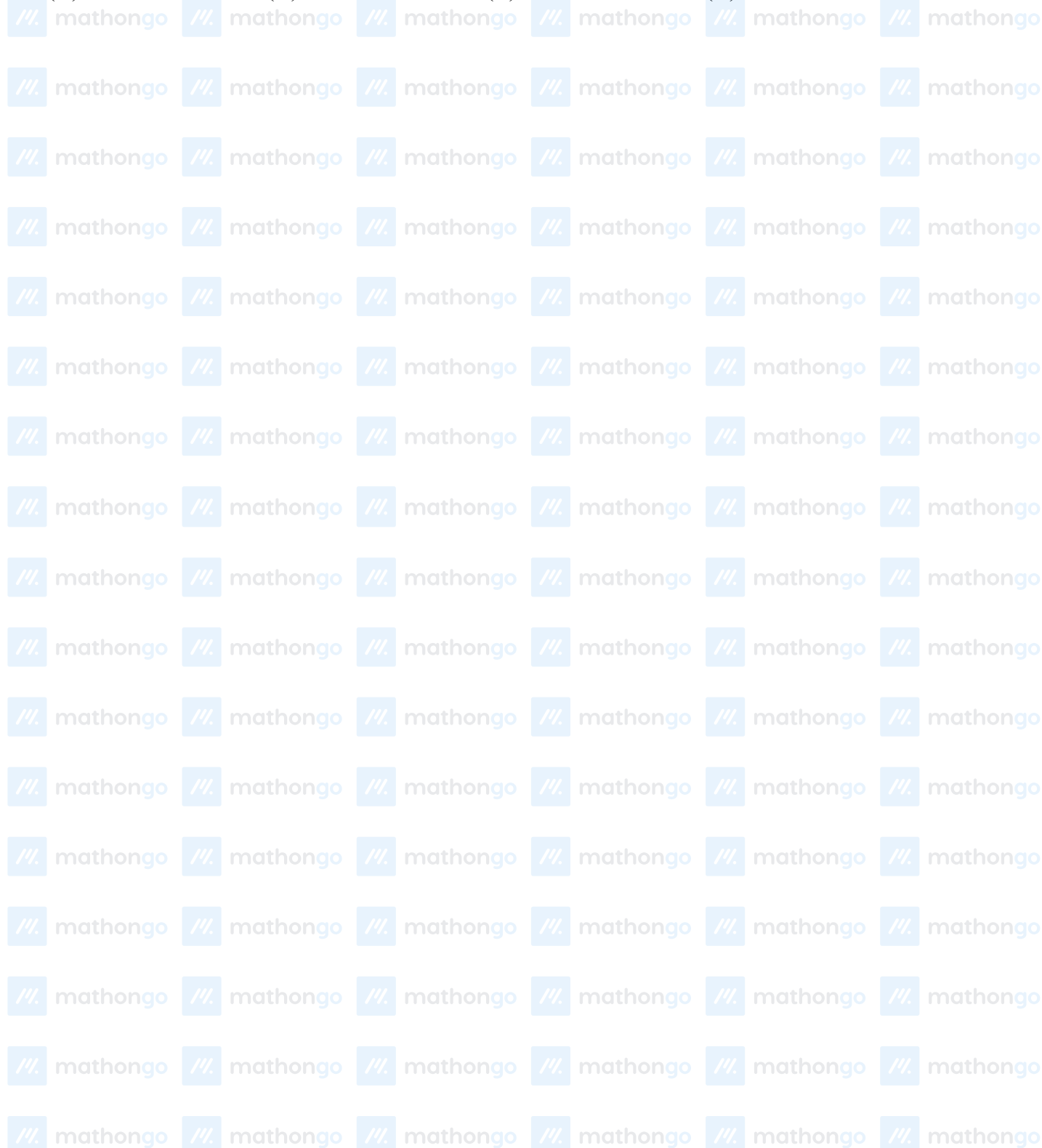
Q4 (D)

Q5 (A)

Q6 (A)

Q7 (B)

Q8 (A)



#MathBoleTohMathonGo

## Properties

MathonGo

## Hints and Solutions

Q1 (B)

Hg, Ga, Cs are liquid near room temperature But Ag(silver) is solid.

Q2 (B)

As Cl has maximum electron affinity among all elements.

Element	$\Delta_{\text{eg}}H$ (kJ/mol)
F	-328
Cl	-349
Te	-190
Po	-174

Q3 (D)

Te (Metalloid) refer NCERT (Page No. 83)

Q4 (D)

Ionic radius of  $O^{2-}$  is more than that of  $Mg^{2+}$

Both  $O^{2-}$  and  $Mg^{2+}$  are isoelectronic with 10 electrons

Q5 (A)

$N^{3-} > O^{2-} > F^{-} > Na^{+} > Mg^{+2}$  (Radii)

(Isoelectronic species)

Q6 (A)

$E \Rightarrow [Ar] 3d^{10} 4s^2 4p^4$

Element above E  $\Rightarrow [Ne] 3s^2 3p^4$

Q7 (B)

#MathBoleTohMathonGo

## Properties

MathonGo

Hints and Solutions  $\text{Cl}_2\text{O}_7$  Acidic

$\text{Na}_2\text{O}$  Basic

$\text{Al}_2\text{O}_3$  Amphoteric

$\text{N}_2\text{O}$  Neutral

**Q8 (A)**

Ionisation energy =  $N > O$ .

In oxygen atom, 2 of the 4 2p electrons must occupy the same 2p orbital resulting in an increased electron electron-repulsion.

#MathBoleTohMathonGo