

Q1. 21 January Shift 1

Which of the following represents the correct trend for the mentioned property ?

- A. F > P > S > B - First Ionization Energy
- B. Cl > F > S > P - Electron Affinity
- C. K > Al > Mg > B - Metallic character
- D. K₂O > Na₂O > MgO > Al₂O₃ - Basic character

Choose the correct answer from the options given below :

- (1) B and C only
- (2) A, B and D only
- (3) A and B only
- (4) A, B, C and D

Q2. 21 January Shift 2

Given below are two statements :

Statement I : The correct order in terms of atomic/ionic radii is Al > Mg > Mg²⁺ > Al³⁺.

Statement II : The correct order in terms of the magnitude of electron gain enthalpy is Cl > Br > S > O.

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

- (1) Both Statement I and Statement II are false
- (2) Both Statement I and Statement II are true
- (3) Statement I is false but Statement II is true
- (4) Statement I is true but Statement II is false

Q3. 22 January Shift 1

Given below are two statements:

Statement I : The halogen that makes longest bond with hydrogen in HX, has the smallest covalent radius in its group.

Statement II : A group 15 element's hydride EH₃ has the lowest boiling point among corresponding hydrides of other group 15 elements. The maximum covalency of that element E is 4.

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

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is false but Statement II is true
- (4) Statement I is true but Statement II is false

Q4. 22 January Shift 2

Given below are two statements :

Statement I : C < O < N < F is the correct order in terms of first ionization enthalpy values.

Statement II : S > Se > Te > Po > O is the correct order in terms of the magnitude of electron gain enthalpy values.

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

- (1) Statement I is true but Statement II is false
- (2) Statement I is false but Statement II is true
- (3) Both Statement I and Statement II are false
- (4) Both Statement I and Statement II are true

Q5. 23 January Shift 1

The correct trend in the first ionization enthalpies of the elements in the 3rd period of periodic table is :

- (1) Si < S < Al < P < Cl (2) Al < S < P < Si < Cl
 (3) Al < Si < S < P < Cl (4) S < Si < Al < P < Cl

Q6. 23 January Shift 2

Elements X and Y belong to Group 15. The difference between the electronegativity values of ' X ' and phosphorus is higher than that of the difference between phosphorus and ' Y '. ' X ' & ' Y ' are respectively

- (1) N & As (2) As & Sb (3) Bi & N (4) As & Bi

Q7. 23 January Shift 2

Given below are two statements:

Statement I: The second ionisation enthalpy of Na is larger than the corresponding ionisation enthalpy of Mg.

Statement II: The ionic radius of O²⁻ is larger than that of F⁻.

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

- (1) Statement I is false but Statement II is true (2) Both Statement I and Statement II are false
 (3) Statement I is true but Statement II is false (4) Both Statement I and Statement II are true

Q8. 24 January Shift 1

Given below are two statements:

Statement I: K > Mg > Al > B is the correct order in terms of metallic character.

Statement II: Atomic radius is always greater than the ionic radius for any element.

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

- (1) Both Statement I and Statement II are true (2) Both Statement I and Statement II are false
 (3) Statement I is false but Statement II is true (4) Statement I is true but Statement II is false

Q9. 24 January Shift 2

The correct order of C, N, O and F in terms of second ionisation potential is

- (1) C < N < F < O (2) C < O < N < F
 (3) C < F < N < O (4) F < N < C < O

Q10. 24 January Shift 2

Choose the INCORRECT statement

- (1) CO₂ is the most acidic oxide among the dioxides of group of 14 elements.
 (2) Carbon exhibits negative oxidation states along with +4 and +2.
 (3) Carbon cannot exceed its covalency more than four.
 (4) Among the isotopes of carbon, ¹³C is a radioactive isotope.

Q11. 28 January Shift 1

In period 4 of the periodic table, the elements with highest and lowest atomic radii are respectively.

- (1) Rb & Br (2) K & Se (3) K & Br (4) Na & Cl

Q12. 28 January Shift 2

Consider the elements N, P, O, S, Cl and F. The number of valence electrons present in the elements with most and least metallic character from the above list is respectively.

- (1) 7 and 5 (2) 5 and 7 (3) 5 and 6 (4) 6 and 7

ANSWER KEYS

1. (2) 2. (3) 3. (2) 4. (4) 5. (1) 6. (1) 7. (4) 8. (4)

9. (1) 10. (4) 11. (3) 12. (2)