

## NEET CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES — IONISATION ENTHALPY — PYQS

Max. Marks: 40

Questions: 10

### Section A (MCQ) — 10 questions

**Q.1** Given below are two statements: One is labelled as **Assertion A** and the other is labelled as **Reason R**.

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

**Assertion (A):** The first ionization enthalpy of O is lower than that of N and F.

**Reason (R):** The loss of an electron from O leads to stable half-filled p orbital [RE-NEET (UG) 2026]

- (1) A is not correct but R is correct
- (2) Both A and R are correct and R is the correct explanation of A
- (3) Both A and R are correct and R is NOT the correct explanation of A
- (4) A is correct but R is not correct.

Scan or tap for the full solution



**Q.2** Which of the following statements are true?

- A. Unlike Ga that has a very high melting point, Cs has a very low melting point.
- B. On Pauling scale, the electronegativity values of N and Cl are not the same.
- C. Ar,  $K^+$ ,  $Cl^-$ ,  $Ca^{2+}$ , and  $S^{2-}$  are all isoelectronic species.
- D. The correct order of the first ionization enthalpies of Na, Mg, Al, and Si is  $Si > Al > Mg > Na$ .
- E. The atomic radius of Cs is greater than that of Li and Rb.

Choose the correct answer from the options given below :

[NEET (UG) 2025]

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

Scan or tap for the full solution



**Q.3** Arrange the following elements in increasing order of first ionization enthalpy: Li, Be, B, C, N

Choose the correct answer from the options given below:

[NEET (UG) 2024]

- (1)  $Li < Be < B < C < N$
- (2)  $Li < B < Be < C < N$
- (3)  $Li < Be < C < B < N$
- (4)  $Li < Be < N < B < C$

Scan or tap for the full solution



**Q.4** The correct order of first ionization enthalpy for the given four elements is : [NEET (UG) 2022 (Phase 2)]

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

Scan or tap for the full solution



**Q.5** If first ionization enthalpies of elements X and Y are  $419 \text{ kJ mol}^{-1}$  and  $590 \text{ kJ mol}^{-1}$ , respectively and second ionization enthalpies of X and Y are  $3069 \text{ kJ mol}^{-1}$  and  $1145 \text{ kJ mol}^{-1}$ , respectively. Then correct statement is :

[NEET (UG) 2022 (Phase 2)]

- (1) Both X and Y are alkaline earth metals
- (2) X is an alkali metal and Y is an alkaline earth metal
- (3) X is an alkaline earth metal and Y is an alkali metal
- (4) Both X and Y are alkali metals

Scan or tap for the full solution



**Q.6** For the second period elements the correct increasing order of first ionization enthalpy is :

[NEET (UG) 2019]

- (1)  $Li < B < Be < C < N < O < F < Ne$
- (2)  $Li < Be < B < C < O < N < F < Ne$
- (3)  $Li < B < Be < C < O < N < F < Ne$
- (4)  $Li < Be < B < C < N < O < F < Ne$

Scan or tap for the full solution



**Q.7** Amongst the elements with following electronic configurations, which one of them may have the highest ionisation energy ? [AIPMT 2009]

- (1)  $[Ne] 3s^2 3p^2$
- (2)  $[Ar] 3d^{10} 4s^2 4p^3$
- (3)  $[Ne] 3s^2 3p^1$
- (4)  $[Ne] 3s^2 3p^3$

Scan or tap for the full solution



**Q.8** With which of the following electronic configuration an atom has the lowest ionisation enthalpy? [AIPMT 2007]

- (1)  $1s^2 2s^2 2p^3$  (2)  $1s^2 2s^2 2p^6 3s^1$   
 (3)  $1s^2 2s^2 2p^6$  (4)  $1s^2 2s^2 2p^5$

Scan or tap for the full solution



**Q.9** Which of the following order is wrong?

[AIPMT 2002]

- (1)  $\text{NH}_3 < \text{PH}_3 < \text{AsH}_3$  – acidic  
 (2)  $\text{Li} < \text{Be} < \text{B} < \text{C}$  – 1<sup>st</sup> IP  
 (3)  $\text{Al}_2\text{O}_3 < \text{MgO} < \text{Na}_2\text{O} < \text{K}_2\text{O}$  – basic  
 (4)  $\text{Li}^+ < \text{Na}^+ < \text{K}^+ < \text{Cs}^+$  – ionic radius

Scan or tap for the full solution



**Q.10** Correct order of 1<sup>st</sup> ionization potential among following elements Be, B, C, N, O is [AIPMT 2001]

- (1)  $\text{B} < \text{Be} < \text{C} < \text{O} < \text{N}$  (2)  $\text{B} < \text{Be} < \text{C} < \text{N} < \text{O}$   
 (3)  $\text{Be} < \text{B} < \text{C} < \text{N} < \text{O}$  (4)  $\text{Be} < \text{B} < \text{C} < \text{O} < \text{N}$

Scan or tap for the full solution



### ANSWER KEY

| Ques. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |
|-------|---|---|---|---|---|---|---|---|---|----|--|
| Ans.  | 2 | 4 | 2 | 4 | 2 | 3 | 4 | 2 | 2 | 1  |  |