

Chemistry Worksheets Class 11 on Chapter 3 Classification of Elements and Periodicity in Properties - Set 1

Q-1: What happens when a neutral atom is converted into an anion?

- a) Atomic weight increases
- b) Atomic weight decreases
- c) Size increases
- d) Size decreases

Q-2: The element with the highest affinity for electrons will belong to

- a) Period 2, Group 17
- b) Period 2, Group 18
- c) Period 3, Group 17
- d) Period 2, Group 1

Q-3: Which of the following is not a representative element?

- a) $Z = 38$
- b) $Z = 31$
- c) $Z = 54$
- d) $Z = 26$

Q-4: Find the incorrect statement.

- a) For group 2, the valence electron and valency are identical.
- b) Metal, non-metal, and metalloids are all present in P-block elements.
- c) Helium (He) is the only noble gas with two valence electrons.
- d) The smallest element on the periodic table is He.

Q-5: The symbol of an element with atomic number $Z = 109$ is

- a) Unp
- b) Uns
- c) Uno
- d) Une

Q-6: Which among the following will have the largest atomic radii based on their positions in the periodic table?

Be, N, O, Ne

Q-7: Is the electronegativity of an atom constant?

Q-8: Which element among the following has the highest positive electron gain enthalpy? Neon, Nitrogen, and Fluorine

Q-9: Give the inert gas atom's name and atomic number in which the total number of d-electrons equals the difference in numbers of total p and s-electrons.

Q-10: Show by chemical reaction with water that K_2O is a basic oxide and Cl_2O_7 is an acidic oxide.

Q-11: What would be the atomic number for the following if they were discovered in the future?

- (i) Next alkali metal
- (ii) Next alkaline earth metal
- (iii) Next inert gas

Q-12: Give the general valence shell electronic configuration of transition elements and some characteristics. Also, tell the block to which they belong and why?

Q-13: Do the non-metallic character exhibited by the halogens have any relation to ionisation enthalpy?

Q-14: Why do s-block elements act as strong reducing agents?

Q-15: What will be the fluorine atom's atomic radius in a covalently bound fluorine molecule with a 128 pm internuclear distance?

Q-16: Why are there only 14 lanthanides and only 14 actinides?

Q-17:

- a) What do you understand by shielding effect or screening effect? How does it affect the ionisation enthalpy?
- b) Why can Na not exhibit a +2 oxidation state?

Q-18: $Li < Na < K < Rb < Cs$ are in increasing order of reactivity in group 1, while $F > Cl > Br > I$ are in that group 17. Explain.

Q-19: What is the diagonal relationship? What are the main reasons for the anomalous behaviour of the elements belonging to the second period?

Q-20: The amount of energy released when 1×10^{10} atoms of bromine in vapour state are converted to Br^- ions according to the equation, $Br(g) + e^- \rightarrow Br^-(g)$ is 60.90×10^{-10} J. Calculate the electron gain enthalpy of bromine atom in terms of eV per atom.