Atomic and Ionic radii

1. The ratio between radii of He^+ ion and *H* atom is

(a) $\frac{1}{2}$ (b) 1

(c) $\frac{3}{2}$ (d) 2

2. The smallest among the following ions is

(a) Na^+ (b) Mg^{+2}

(c) Ba^{2+} (d) Al^{3+}

3. Which is smallest in size

(a) O^{2-} (b) C^{4-}

(c) F^- (d) N^{3-}

4. Which of the following has largest size

(a) *Al* (b) Al^+

(c) Al^{+2} (d) Al^{+3}

5. Of the following, the one with largest size is

(a) Cl^- (b) Ar

(c) K^+ (d) Ca^{2+}

6. Which cation has smallest radius

(a) K^+ (b) Na^+

(c) Li^+ (d) Be^{2+}

7. The radii of F, F^-, O and O^{-2} are in the order of

(a) $O^{2-} > F^- > O > F$

(b) $O^{2-} > F^- > F > O$

(c) $F^- > O^{2-} > F > O$

(d) $O^{2-} > O > F^- > F$

8. Which of the following has the smallest size

(a) Na^+ (b) Mg^{+2}

(c) Cl^- (d) F^-

9. Which of the following is largest

(a) Cl^- (b) S^{2-}

(c) Na^+ (d) F^-

10. Which of the following property displays progressive increase down a group in the Bohr's periodic table

(a) Electronegativity

(b) Electron affinity

(c) Ionization potential

(d) Size of the atom

11. Atomic radii of fluorine and neon in angstrom units are respectively given by

(a) 0.762, 1.60

(b) 1.60, 1.60

(c) 0.72, 0.72

(d) None of these values

12. Which ion has greatest radius in the following

(a) H^- (b) F^-

(c) Br^- (d) I^-

13. Which has the maximum atomic radius
(a) Al (b) Si
(c) P (d) Mg

14. Which one of the following ions has the highest value of ionic radius
(a) O^{2-} (b) B^{3+}
(c) Li^{+} (d) F^{-}

15. On going down a main sub-group in the periodic table (example Li to Cs in IA or Be to Ra in IIA), the expected trend of changes in atomic radius is a
(a) Continuous increase
(b) Continuous decrease
(c) Periodic one, an increase followed by a decrease
(d) A decrease followed by increase

16. Which one of the following is the smallest in size
(a) N^{3-} (b) O^{2-}
(c) F^{-} (d) Na^{+}

17. Which one is the correct order of the size of the iodine species
(a) $I > I^{+} > I^{-}$ (b) $I > I^{-} > I^{+}$
(c) $I^{+} > I^{-} > I$ (d) $I^{-} > I > I^{+}$

18. Which one has larger radius
(a) Na^{+} (b) F
(c) F^{-} (d) Na

19. In third row of periodic table the atomic radii from Na to Cl
(a) Continuosly decreases
(b) Continuosly increases
(c) Remains constant
(d) Increases but not continuously

20. The size of the following species increases in the order
(a) $Mg^{2+} < Na^{+} < F^{-} < Al$
(b) $F^{-} < Al < Na^{+} > Mg^{2+}$
(c) $Al < Mg < F^{-} < Na^{+}$
(d) $Na^{+} < Al < F^{-} < Mg^{2+}$

21. In $K^{+}F^{-}$ ionic radius of F^{-} is more while atomic radius of K^{+} is
(a) Less than F^{-}
(b) More than F^{-}
(c) Equal of F^{-}
(d) None of these

22. Which one of the following species possesses maximum size
(a) Na^{+} (b) F^{-}
(c) Ne (d) O^{2-}

23. The ionic radii of N^{3-}, O^{2-}, F^{-} and Na^{+} follow the order
(a) $N^{3-} > O^{2-} > F^{-} > Na^{+}$
(b) $N^{3-} > Na^{+} > O^{2-} > F^{-}$
(c) $Na^{+} > O^{2-} > N^{3-} > F^{-}$
(d) $O^{2-} > F^{-} > Na^{+} > N^{3-}$

24. On moving down a group of regular elements, both atomic and ionic radii increases with increasing

(a) Atomic number

(b) Atomic weight

(c) Atomic mass

(d) None of these

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