

71. If the intermolecular distance between two hydrogen atoms in H_2 molecule is 74 pm, then the covalent radius of hydrogen is
(1) 37 pm (2) 0.47 \AA (3) 74 pm (4) 74 \AA
72. Ionic radii vary in
(1) inverse proportion to the effective nuclear charge
(2) inverse proportion to the square of effective nuclear charge
(3) inverse proportion to the screening effect
(4) direct proportion to the square of the screening effect
73. Which of the following set species contain only isoelectronic ions?
(1) $Zn^{2+}, Ca^{2+}, Ga^{3+}, Al^{3+}$ (2) $K^+, Ca^{2+}, Sc^{2+}, Cl^-$
(3) $P^{3-}, S^{2-}, Cl^-, K^+$ (4) $Tl^{4+}, Ar, Cr^{3+}, V^{5+}$
74. The first ionisation potential of Na, Mg, Al and Si are in the order
(1) $Na < Mg > Al < Si$ (2) $Na > Mg > Al < Si$
(3) $Na < Mg < Al > Si$ (4) $Na < Mg < Al < Si$
75. The ionisation energy of nitrogen is more than oxygen because of
(1) more attraction of electrons by the nucleus
(2) the extra stability of half filled p-orbitals
(3) the ionic radius of nitrogen atom is smaller
(4) All of the above are correct
76. The order of screening effect of electrons of s, p, d and f – orbitals of a given shell of an atom on its outer shell electrons is
(1) $s > p > d > f$ (2) $f > d > p > s$ (3) $p < d < s < f$ (4) $f > p > s > d$
77. Which one of the following arrangement represents the correct order of electron gain enthalpy (with negative sign) of the given atomic species?
(1) $Cl < F < S < O$ (2) $O < S < F < Cl$ (3) $S < O < Cl < F$ (4) $F < Cl < O < S$
78. Which of the following is amphoteric in nature?
(1) Al_2O_3, Cl_2O_7 (2) Al_2O_3 (3) As_2O_3 (4) Both (2) and (3)
79. A metal ion with +3 charge has five electrons in the 3d-subshell, the metal is
(1) Fe (2) Cr (3) Mn (4) Zn
80. Elements X and Y have valence shell electronic configuration as
 $X = ns^2np^4, Y = ns^1$
Which compound is likely to be formed from X and Y?
(1) X_2Y_5 (2) XY_2 (3) X_2Y (4) X_2Y_2