

Periodic Classification of elements Assignment

- 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) $O^{2-} > O > F^- > F$
- Which of the following has the largest ionic radius
 (a) Na^+ (b) Ni^+ (c) Cs^+ (d) Mg^{+2}
- The smallest among the following ions is
 (a) Na^+ (b) Mg^{+2} (c) Ba^{2+} (d) Al^{3+}
- Which of the following is the correct order of ionic radii
 (a) $F > Li > Na > K$ (b) $F > K > Na > Li$ (c) $Na > K > F > Li$ (d) $Li > Na > K > F$
- The lanthanide contraction is responsible for the fact that
 (a) Zr and Y have about the same radius (b) Zr and Nb have similar oxidation state
 (c) Zr and Hf have about the same radius (d) Zr and Zn have the same oxidation state
- Which cation has smallest radius
 (a) K^+ (b) Na^+ (c) Li^+ (d) Be^{2+}
- Increasing order of atomic radii is
 (a) $Mg^{2+} < Na^+ < Ne < F^- < O^{2-}$ (b) $Na^+ < Mg^{++} < Ne < F^- < O^{2-}$
 (c) $O^{2-} < F^- < Ne < Na^+ < Mg^{2+}$ (d) $Ne < O^{2-} < F^- < Na^+ < Mg^{2+}$
- Which is the correct order of ionic sizes (At. No. : $Ce = 58, Sn = 50, Yb = 70$ and $Lu = 71$)
 (a) $Ce > Sn > Yb > Lu$ (b) $Sn > Ce > Lu > Yb$ (c) $Lu > Yb > Sn > Ce$ (d) $Sn > Yb > Ce > Lu$
- The ionic radii of Li^+, Na^+, K^+ are in which of the following order
 (a) $K^+ > Na^+ > Li^+$ (b) $K^+ > Na^+ < Li^+$ (c) $K^+ < Na^+ < Li^+$ (d) $Li^+ > Na^+ < K^+$
- The correct order of radii is
 (a) $N < Be < B$ (b) $F^- < O^{2-} < N^{3-}$ (c) $Na < Li < K$ (d) $Fe^{3+} < Fe^{2+} < Fe^{4+}$
- Which of the following has smallest size
 (a) Mg^{2+} (b) Na^+ (c) Al^{3+} (d) Si^{4+}
- Smallest among these species is
 (a) Lithium ion (b) Hydrogen (c) Lithium (d) Helium
- Correct increasing order of first $I. P.$ is
 (a) $Na < Mg > Al < Si$ (b) $Na < Mg < Al < Si$ (c) $Na > Mg > Al > Si$ (d) $Na < Mg < Al > Si$
- Among the following options, the sequence of increasing first ionisation potential will be
 (a) $B < C < N$ (b) $B > C > N$ (c) $C < B < N$ (d) $N > C > B$
- The set representing the correct order of first ionisation potential is
 (a) $K > Na > Li$ (b) $Be > Mg > Ca$ (c) $B > C > N$ (d) $Ge > Si > C$
- Which among the following species has the highest ionisation potential
 (a) B (b) L (c) Ne (d) F
- The elements which occupy the peaks of ionisation energy curve, are
 (a) Na, K, Rb, Cs (b) Na, Mg, Cl, I (c) Cl, Br, I, F (d) He, Ne, Ar, Kr
- Which of the following is not the correct increasing order of ionisation energy
 (a) $Cl^- < Ar < K^+$ (b) $Au < Ag < Cu$ (c) $Cs < Rb < K$ (d) $K < Ca < Sc$
- The decreasing order of the ionisation potential in the following elements is
 (a) $Ne > Cl > P > S > Al > Mg$ (b) $Ne > Cl > P > S > Mg > Al$
 (c) $Ne > Cl > S > P > Mg > Al$ (d) $Ne > Cl > S > P > Al > Mg$
- Of the following iso-electronic ions, the one which has the lowest ionisation potential is
 (a) Na^+ (b) Mg^{++} (c) F^- (d) O^{--}
- Highest energy will be absorbed to eject out the electron in the configuration

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- (a) $1s^2 2s^2 2p^1$ (b) $1s^2 2s^2 2p^3$ (c) $1s^2 2s^2 2p^2$ (d) $1s^2 2s^2 2p^4$
22. Arrange S, P, As in order of increasing ionisation energy
(a) $S < P < As$ (b) $P < S < As$ (c) $As < S < P$ (d) $As < P < S$
23. Which of the following relation is correct with respect to first (I) and second (II) ionization potentials of sodium and magnesium
(a) $I_{Mg} = II_{Na}$ (b) $I_{Na} > I_{Mg}$ (c) $II_{Mg} < II_{Na}$ (d) $II_{Na} > II_{Mg}$
24. Which of the following element has maximum, first ionisation potential
(a) V (b) Ti (c) Cr (d) Mn
25. Highest ionisation energy stands for
(a) He (b) C (c) N (d) H
26. Which of the following has maximum ionization potential
(a) K (b) Na (c) Al (d) Mg
27. In view of their low ionisation energies the alkali metals are
(a) Weak oxidising agents (b) Strong reducing agents (c) Strong oxidising agents (d) Weak reducing agents
28. Which one of the following is an incorrect statement
(a) The ionisation potential of nitrogen is greater than that of oxygen
(b) The electron affinity of fluorine is greater than that of chlorine
(c) The ionisation potential of beryllium is greater than that of boron
(d) The electronegativity of fluorine is greater than that of chlorine
29. Electron affinity depends on
(a) Atomic size (b) Nuclear charge
(c) Atomic number (d) Atomic size and nuclear charge both
30. Which of the following elements will have the highest electron affinity
(a) Nitrogen (b) Flourine (c) Chlorine (d) Phosphorus
31. Which of the following has the highest value of electron affinity
(a) F (b) Cl (c) Br (d) I
32. The electron affinity values for the halogens show the following trend
(a) $F < Cl > Br > I$ (b) $F < Cl < Br < I$ (c) $F > Cl > Br > I$ (d) $F < Cl > Br < I$
33. Two elements whose electronegativities are 1.2 and 3.0 the bond formed between them would be
(a) Ionic (b) Covalent (c) Coordinate (d) Metallic
34. Increasing order of electronegativity is
(a) $Bi < P < S < Cl$ (b) $P < Bi < S < Cl$ (c) $S < Bi < P < Cl$ (d) $Cl < S < Bi < P$
35. Going from fluorine to chlorine, bromine and iodine, the electronegativity
(a) Increases (b) Decreases
(c) First decreases then increases (d) Changes randomly
36. Which of the following halogens doesn't exhibit positive oxidation state in its compounds
(a) Cl (b) Br (c) I (d) F
37. The maximum valency of an element with atomic number 7 is
(a) 2 (b) 5 (c) 4 (d) 3
38. Spectrum of Li^{2+} is similar to that of
(a) H (b) He (c) Be (d) Ne
39. The correct order of increasing order of oxidising power is
(a) $F_2 < Cl_2 < Br_2 < I_2$ (b) $F_2 < Br_2 < Cl_2 < I_2$ (c) $Cl_2 < Br_2 < F_2 < I_2$ (d) $I_2 < Br_2 < Cl_2 < F_2$
40. The most basic among these hydroxides, is
(a) $Be(OH)_2$ (b) $Mg(OH)_2$ (c) $Ca(OH)_2$ (d) $Ba(OH)_2$
41. Which of the following aqueous acid is most acidic
(a) HCl (b) HF (c) HI (d) HB
42. Which of the following halogen acids is least acidic
(a) HI (b) HCl (c) HF (d) HBr
43. The correct order of the increasing ionic character is
(a) $BeCl_2 < MgCl_2 < CaCl_2 < BaCl_2$ (b) $BeCl_2 < MgCl_2 < BaCl_2 > CaCl_2$

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- (c) $BeCl_2 < BaCl_2 < MgCl_2 < CaCl_2$ (d) $BaCl_2 < CaCl_2 < MgCl_2 < BeCl_2$
44. Which of the following sequence correctly represents the decreasing acid nature of oxides
(a) $Li_2O > BeO > B_2O_3 > CO_2 > N_2O_3$ (b) $N_2O_3 > CO_2 > B_2O_3 > BeO > Li_2O$
(c) $CO_2 > N_2O_3 > B_2O_3 > BeO > Li_2O$ (d) $B_2O_3 > CO_2 > N_2O_3 > Li_2O > BeO$
45. An element X which occurs in the first short period has an outer electronic structure $s^2 p^1$. What are the formula and acid-base character of its oxides
(a) XO_3 , basic (b) X_2O_3 , basic (c) X_2O_3 , amphoteric (d) XO_2 , acidic
46. In which of the following metal carbonate which metal carbonate is decomposed on heating
(a) $MgCO_3$ (b) Na_2CO_3 (c) K_2CO_3 (d) Pb_2CO_3
47. Which of the following set has the strongest tendency to form anions
(a) Ga, In and Te (b) Na, Mg and Al (c) N, O and F (d) V, Cr and Mn
48. Highest density is of
(a) Ir (b) Os (c) Pb (d) Hg
49. Correct order of polarising power is
(a) $Cs^+ < K^+ < Mg^{2+} < Al^{3+}$ (b) $K^+ < Cs^+ < Mg^{2+} < Al^{3+}$
(c) $Cs^+ < K^+ < Al^{3+} < Mg^{2+}$ (d) $K^+ < Cs^+ < Al^{3+} < Mg^{2+}$
50. The halogen that most easily reduced is
(a) F_2 (b) Cl_2 (c) Br_2 (d) I_2