

QB365 Question Bank Software Study Materials

Periodic Classification of Elements 50 Important 1 Marks Questions With Answers (Book Back and Creative)

11th Standard

Chemistry

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

- 1) What would be the IUPAC name for an element with atomic number 222?
(a) bibibium (b) bididium (c) didibium **(d) bibibium**
- 2) The electronic configuration of the elements A and B are $1s^2, 2s^2, 2p^6, 3s^2$ and $1s^2, 2s^2, 2p^5$ respectively. The formula of the ionic compound that can be formed between these elements is _____
(a) AB **(b) AB₂** (c) A₂B (d) none of the above
- 3) The group of elements in which the differentiating electron enters the anti penultimate shell of atoms are called _____
(a) p-block elements (b) d-block elements (c) s-block elements **(d) f-block elements**
- 4) In which of the following options the order of arrangement does not agree with the variation of property indicated against it?
(a) I < Br < Cl < F (increasing electron gain enthalpy) (b) Li < Na < K < Rb (increasing metallic radius)
(c) Al³⁺ < Mg²⁺ < Na⁺ - (increasing ionic size) (d) B < C < O < N (increasing first ionisation enthalpy)
- 5) Which of the following elements will have the highest electro negativity _____
(a) Chlorine (b) Nitrogen (c) Cesium **(d) Fluorine**
- 6) Various successive ionisation enthalpies (in kJ mol⁻¹) of an element are given below.
- | IE ₁ | IE ₂ | IE ₃ | IE ₄ | IE ₅ |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| 577.5 | 1,810 | 2,750 | 11,580 | 14,820 |
- The element is
(a) phosphorus (b) Sodium **(c) Aluminium** (d) Silicon
- 7) In the third period the first ionization potential is of the order.
(a) Na > Al > Mg > Si > P **(b) Na < Al < Mg < Si < P** (c) Mg > Na > Si > P > Al (d) Na < Al < Mg < Si < P
- 8) Identify the wrong statement.
(a) Amongst the isoelectronic species, smaller the positive charge on cation, smaller is the ionic radius
(b) Amongst isoelectronic species greater the negative charge on the anion, larger is the ionic radius
(c) Atomic radius of the elements increases as one moves down the first group of the periodic table
(d) Atomic radius of the elements decreases as one moves across from left to right in the 2nd period of the periodic table.
- 9) Which one of the following arrangements represent the correct order of least negative to most negative electron gain enthalpy _____.
(a) Al < O < C < Ca < F (b) Al < Ca < O < C < F (c) C < F < O < Al < Ca **(d) Ca < Al < C < O < F**
- 10) The correct order of electron gain enthalpy with negative sign of F, Cl, Br and I having atomic number 9, 17, 35 and 53 respectively is _____
(a) I > Br > Cl > F (b) F > Cl > Br > I **(c) Cl > F > Br > I** (d) Br > I > Cl > F
- 11) Which one of the following is the least electronegative element?

- (a) Bromine (b) Chlorine (c) Iodine **(d) Hydrogen**
- 12) The element with positive electron gain enthalpy is _____
- (a) Hydrogen (b) Sodium **(c) Argon** (d) Fluorine
- 13) The correct order of decreasing electronegativity values among the elements X, Y, Z and A with atomic numbers 4, 8, 7 and 12 respectively _____
- (a) Y > Z > X > A** (b) Z > A > Y > X (c) X > Y > Z > A (d) X > Y > A > Z
- 14) The electronic configuration of the atom having maximum difference in first and second ionisation energies is _____
- (a) $1s^2, 2s^2, 2p^6, 3s^1$** (b) $1s^2, 2s^2, 2p^6, 3s^2$ (c) $1s^2, 2s^2, 2p^6, 3s^2, 3p^6, 4s^1$ (d) $1s^2, 2s^2, 2p^6, 3s^2, 3p^1$
- 15) Which of the following is second most electronegative element?
- (a) Chlorine (b) Fluorine **(c) Oxygen** (d) Sulphur
- 16) IE_1 and IE_2 of Mg are 179 and 348 kcal mol⁻¹ respectively. The energy required for the reaction $Mg \rightarrow Mg^{2+} + 2e^-$ is _____
- (a) +169 kcal mol⁻¹ (b) -169 kcal mol⁻¹ **(c) +527 kcal mol⁻¹** (d) -527 kcal mol⁻¹
- 17) In a given shell the order of screening effect is _____
- (a) s > p > d > f** (b) s > p > f > d (c) f > d > p > s (d) f > p > s > d
- 18) Which of the following orders of ionic radii is correct?
- (a) $H^- > H^+ > H$ (b) $Na^+ > F^- > O^{2-}$ (c) $F^- > O^{2-} > Na^+$ **(d) None of these**
- 19) The First ionisation potential of Na, Mg and Si are 496, 737 and 786 kJ mol⁻¹ respectively. The ionisation potential of Al will be closer to _____
- (a) 760 kJ mol⁻¹ **(b) 575 kJ mol⁻¹** (c) 801 kJ mol⁻¹ (d) 419 kJ mol⁻¹
- 20) Which one of the following is true about metallic character when we move from left to right in a period and top to bottom in a group?
- (a) Decreases in a period and increases along the group** (b) Increases in a period and decreases in a group
- (c) Increases both in the period and the group (d) Decreases both in the period and in the group
- 21) How does electron affinity change when we move from left to right in a period in the periodic table?
- (a) Generally increases** (b) Generally decreases (c) Remains unchanged (d) First increases and then decreases
- 22) Which of the following pairs of elements exhibit diagonal relationship?
- (a) Be and Mg (b) Li and Mg (c) Be and B **(d) Be and Al**
- 23) What would be the formula of the compound formed by A and B, where A has the valence 3 and B has the valence 3?
- (a) AB** (b) AB₃ (c) A₃B (d) 3AB₃
- 24) An element M combines with Cl. What would be the formula of the compound obtained if M has a valence of 2?
- (a) MCl **(b) MCl₂** (c) M₂Cl (d) M₂Cl₂
- 25) There are _____ periods in the periodic table.
- (a) 18 **(b) 7** (c) 6 (d) 5
- 26) The number of groups in the periodic table _____
- (a) 7 **(b) 18** (c) 5 (d) 6
- 27) Elements which generally exhibit multiple oxidation states and whose ions are usually coloured are _____
- (a) metalloids **(b) transition elements** (c) non-metals (d) gases
- 28) The metal which is a liquid at room temperature is _____

- (a) Gallium **(b) Mercury** (c) Germanium (d) Tellurium
- 29) The element with atomic number 103 is _____
(a) lawrencium (b) Mendeleevium (c) fermium (d) nobelium
- 30) Excluding hydrogen and helium, the smallest element in the periodic table is _____
 (a) Lithium (b) Oxygen **(c) Fluorine** (d) Chlorine
- 31) The general electronic configuration of s-block element is _____
 (a) ns^1 (b) ns^2 (c) ns^1 and ns^2 **(d) ns^{1-2}**
- 32) The general electronic configuration of p-block element is _____
 (a) ns^{1-2} (b) np^{1-6} (c) np^6 **(d) $ns^2 np^6$**
- 33) Pick the metalloid among the following elements _____
 (a) P (b) S **(c) Si** (d) Al
- 34) Across the period, Ionisation energy _____
(a) increases (b) decreases (c) does not vary (d) first decreases and then increases
- 35) Correct order of 1st ionization potential among elements Be, B, C, N, O is _____
 (a) $B < Be < C < O < N$ **(b) $B < Be < C < N < O$** (c) $Be < B < C < N < O$ (d) $Be < B < C < O < N$
- 36) Pick the incorrect statement about the factors affecting ionization energy
(a) More is the shielding of valence electrons more is the ionization energy
 (b) Ionization enthalpy \propto effective nuclear charge (c) Half filled or full filled atomic orbitals have high ionization energy
 (d) Larger is the atomic radii lower is ionization energy
- 37) Electronegativity of the following elements increases in the order
 (a) C, N, Si, P (b) N, Si, C, P **(c) Si, P, C, N** (d) P, Si, N, C
- 38) Ionic radii vary in:
 (1) inverse proportion to the effective nuclear charge
 (2) inverse proportion to the square of the effective nuclear charge.
 (3) direct proportion to the screening effect.
 (4) direct proportion to the square of screening effect
 (a) 1,2 **(b) 1,3** (c) 2,3 (d) 2,4
- 39) The law of triads is obeyed by _____
(a) Fe, CO, Ni (b) C, N, O (c) He, Ne, Ar (d) Al, Si, P
- 40) Consider the following statements
 (i) In Chancourtois classification, elements differed from each other in atomic weight by 16 or multiples of 16 fell very nearly on the same vertical line.
 (ii) Mendeleev's periodic law is based on atomic weight.
 (iii) Mendeleev listed the 117 elements known at that time and are arranged in the order of atomic numbers.
 Which of the following statement is/are not correct?
 (a) (i) only (b) (ii) and (iii) **(c) (iii) only** (d) (i),(ii) ,(iii)
- 41) Match the list-I and list-II using the correct code given below the list.

List-I	List-II
A. $Z = 100$	1. Mendeleevium
B. $Z = 101$	2. Lawrencium
C. $Z = 102$	3. Fermium

D.	Z = 1034,	Nobelium
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(a)	(b)	(c)	(d)
ABCD	ABCD	ABCD	ABCD
4321	3142	4132	3214

- 42) Which one of the following is a metalloid?
 (a) N (b) P (c) Bi **(d) Sb**
- 43) Which of the following possess almost same properties due to lanthanide contraction?
(a) Zr, HF (b) Na, K (c) Zn, Cd (d) Ag, Au
- 44) Which of the following have the highest value of electronegativity?
(a) Halogens (b) Alkali metals (c) Alkaline earth metals (d) Transition metals
- 45) The highest ionization energy is exhibited by _____
 (a) halogens **(b) alkaline earth metals** (c) transition metals (d) noble gases
- 46) The maximum no. of elements available in elemental form is _____.
 (a) 112 (b) 111 **(c) 118** (d) 92
- 47) which of the following pair of elements are from the same group of the periodic table.
 (a) Mg, Cs **(b) Mg, Sr** (c) Mg, Cl (d) Na, Cl
- 48) $Z^* = Z - S$. Here "S" is _____.
(a) screening constant (b) Equilibrium constant (c) Scroll constant (d) Shell - constant
- 49) An element has nine positive charges in its nucleus. Its common oxidation state is _____.
 (a) +7 (b) +5 **(c) -1** (d) +1
- 50) Ba (OH)₂ is a _____.
 (a) weak base **(b) strong base** (c) weak acid (d) strong base