

CHEMISTRY STUDY MATERIALS FOR CLASS 10

(MCQ based on: Periodic Classification of Elements)

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27. A metal 'M' is in the first group of the Periodic Table. What will be the formula of its oxide?
(a) MO **(b) M₂O** (c) M₂O₃ (d) MO₂
28. Name the neutral atom in the Periodic Table which has the same number of electrons as K⁺ and Cl⁻.
(a) Helium **(b) Argon** (c) Neon (d) Krypton
29. An element X combines with oxygen to form an oxide XO. This oxide is electrically conducting. Write the formula of the compound formed when X reacts with chlorine.
(a) XCl₃ (b) XCl **(c) XCl₂** (d) XCl₅
30. An element X has mass number 40 and contains 21 neutrons in its atom. To which group of the Periodic Table does it belong?
(a) Group 1 (b) Group 4 (c) Group 2 (d) Group 3

Explanation: Reason. e = 19 (2, 8, 8, 1)

31. Consider the following elements ${}_{20}\text{Ca}$, ${}_{8}\text{O}$, ${}_{18}\text{Ar}$, ${}_{16}\text{S}$, ${}_{4}\text{Be}$, ${}_{2}\text{He}$.
Which of the above elements would you expect to be in group 16 of the Periodic Table?
(a) ${}_{20}\text{Ca}$ and ${}_{16}\text{S}$ (b) ${}_{20}\text{Ca}$ and ${}_{8}\text{O}$ (c) ${}_{18}\text{Ar}$ and ${}_{16}\text{S}$ **(d) ${}_{8}\text{O}$ and ${}_{16}\text{S}$**
32. An element 'A' belongs to the third period and group 16 of the Periodic Table. Find out the valency of (I)
(a) Valency = 6 **(b) Valency = 2** (c) Valency = 1 (d) Valency = 3
33. Which one of the following statements is not correct about the trends in the properties of the elements of a group on going down in a group?
(a) The chemical reactivity of metals increases.
(b) The metallic character of elements increases.
(c) The size of the atom increases.
(d) The valence electrons increase.

34. Which of the following set of elements is written in order of their increasing metallic character?
 (a) Na Li K (b) C Q N (c) Mg Al Si **(d) Be Mg Ca**
35. The atom of an element has electronic con-figuration 2, 8, 7. To which of the following elements would it be chemically similar?
 (a) N(7) (b) P(15) (c) Na(11) **(d) F (9)**

Explanation: Reason. Both have same number of valence electrons

36. Which of the following is a transition element?
 (a) Pb (b) As (c) Al **(d) Ni**
37. The metal which is hard and has high melting point and used in filaments of electrical bulbs is
 (a) Ni (b) Fe (c) Pt **(d) W**
38. The lightest liquid metal is
 (a) Hg (b) Ga **(c) Cs** (d) Fr
39. An element has 12 protons. The group and period to which this element belongs to is
(a) 2nd group, 3rd period (b) 2nd group, 2nd period
 (c) 3rd group, 2nd period (d) 3rd group, 3rd period
40. An element has atomic number 17. To which group, period does it belong ? It is metal or non-metal ?
 (a) 7th group, 2nd period, Non-metal **(b) 17th group, 3rd period, Non-metal**
 (c) 7th group, 3rd period, Metal (d) 17th group, 3rd period, Metal
41. The element which has least tendency to lose electron is
 (a) H (b) Li **(c) He** (d) Ne
42. Which of the following is correct order of atomic size ?
(a) Li < Na < K < Rb < Cs (b) Li > Na > K > Rb > Cs
 (c) Na < K < Li < Rb < Cs (d) K < Na < Li < Rb < Cs
43. Which of the following is correct order of size ?
 (a) $I^+ > I > I^-$ **(b) $I^- > I > I^+$** (c) $I > I^+ > I^-$ (d) $I > I^- > I^+$
44. Which of the following oxide is most basic?
 (a) Li_2O (b) Na_2O (c) K_2O **(d) Cs_2O**

45. Which of the following hydroxides is most basic?
(a) $\text{Be}(\text{OH})_2$ **(b) $\text{Ba}(\text{OH})_2$** (c) $\text{Ca}(\text{OH})_2$ (d) $\text{Mg}(\text{OH})_2$
46. Which of the following is correct order of atomic size ?
(a) $\text{Cl} < \text{F} < \text{Br} < \text{I}$ **(b) $\text{F} < \text{Cl} < \text{Br} < \text{I}$**
(c) $\text{I} < \text{Br} < \text{Cl} < \text{F}$ (d) $\text{Br} < \text{I} < \text{Cl} < \text{F}$
47. The elements of group 16 are called
(a) Chalcogens (b) Halogens (c) Pnicogens (d) Noble gases
48. Upto which element, the Law of Octaves was found to be applicable?
(a) Oxygen **(b) Calcium** (c) Cobalt (d) Potassium
49. In Mendeleev's Periodic Table, gaps were left for the elements to be discovered later. Which of the following elements found a place in the periodic table later?
(a) Germanium (b) Chlorine (c) Oxygen (d) Silicon
50. Which of the given elements A, B, C, D and E with atomic number 2, 3, 7, 10 and 30 respectively belong to the same period?
(a) A, B, C **(b) B, C, D** (c) A, D, E (d) B, D, E
51. Where would you locate the element with electronic configuration 2, 8 in the Modern Periodic Table?
(a) Group 8 (b) Group 2 **(c) Group 18** (d) Group 10
52. Which of the following is the outermost shell for elements of period 2 ?
(a) K shell **(b) L shell** (c) M shell (d) N shell
