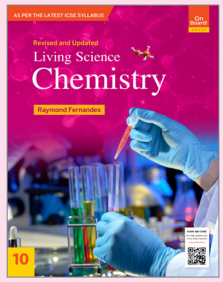
ICSE Living Science CHEMISTRY

Class 10



Multiple-Choice Questions

CHAPTER 1: THE PERIODIC CLASSIFICATION AND PERIODIC PROPERTIES OF ELEMENTS

1. Why is there a need to classify elements?
   - (a) A classification of elements would facilitate their study.
   - (b) A classification would lead to correlating the properties of elements with some fundamental property or characteristic of an element.
   - (c) A classification would further reveal the relationship between one element and the other.
   - (d) All of these

   Ans: d

2. What is the demerit of the Modern Periodic Law?
   - (a) The position of hydrogen is still not certain.
   - (b) The position of carbon is still not certain.
   - (c) The position of oxygen is still not certain.
   - (d) The position of nitrogen is still not certain.

   Ans: a

3. The shortest period is .....
   - (a) Period 4.
   - (b) Period 2.
   - (c) Period 1.
   - (d) Period 5.

   Ans: c

4. Group 18 elements are called .....
   - (a) Transition elements.
   - (b) Noble gases.
   - (c) Halogens.
   - (d) Alkaline earth metals.

   Ans: b

5. Number of elements in Lanthanoids and Actinoids are .....
   - (a) 12
   - (b) 13
   - (c) 14
   - (d) 15

   Ans: d

6. Which of the following statements about the Modern Periodic Table is/are incorrect? Choose the correct option.
   - (i) The elements in the Modern Periodic Table are arranged based on their decreasing atomic number.
   - (ii) The elements in the Modern Periodic Table are arranged based on their increasing atomic masses.
   - (iii) Isotopes are placed in adjoining group(s) in the Periodic Table.
   - (iv) The elements in the Modern Periodic Table are arranged based on their increasing atomic number.
   - (a) (i) only
   - (b) (i), (ii) and (iii)
   - (c) (i), (ii) and (iv)
   - (d) (iv) only

   Ans: b

7. The modern periodic table has ..... vertical columns called groups and ..... horizontal rows called periods.
   (a) 20, 8 (b) 18, 9 (c) 18, 7 (d) 16,7
   Ans: c

8. Which one of the following elements exhibit a maximum number of valence electrons?
   (a) Na (b) Al (c) Si (d) P
   Ans: d

9. Which of the following statements about the transition elements is incorrect?
   (a) All transition elements are metals.
   (b) Most transition elements display variable valency.
   (c) The melting and boiling points of transition metals are usually very low.
   (d) The transition elements are placed in between the normal elements.
   Ans: c

10. The elements with atomic numbers 57 to 71are called
   (a) Lanthanoids. (b) Actinoids. (c) Transition elements. (d) Alkalis.
   Ans: a

11. The atomic radius ..... across the period from left to right whereas the atomic radius ..... as one moves from top to bottom.
   (a) increases, decreases (b) decreases, increases
   (c) Remains same (d) None of these
   Ans: b

12. Which among the following elements has the largest atomic radii?
   (a) Na (b) Mg (c) K (d) Ca
   Ans: c

13. Which one of the following does not increase while moving down the group of the periodic table?
   (a) Atomic radius (b) Metallic character
   (c) Valence (d) Number of shells in an element
   Ans: c

14. On moving from left to right in a period in the periodic table, the size of the atom
   (a) increases. (b) decreases.
   (c) does not change appreciably. (d) first decreases and then increases.
   Ans: b

15. The ionization potential ..... across the period from left to right whereas it ..... as one moves from top to bottom.
   (a) increases, decreases (b) decreases, increases
   (c) Remains same (d) None of these
   Ans: a

16. If the difference in electro-negativities of the combining atoms is zero, then the bond formed is a
   (a) covalent bond. (b) electrovalent bond.
   (c) non-polar covalent bond. (d) polar covalent bond.
   Ans: c

17. Which of the following set of elements is written in order of their increasing metallic character?

(a) Be, Mg, Ca (b) Na, Li, K (c) Mg, Al, Si (d) C, O, N

Ans: a

18. Which of the following alkali metals is a radioactive element?

(a) Lithium (Li) (b) Sodium (Na) (c) Francium (Fr) (d) Potassium (K)

Ans: c

19. Halogens have ..... electrons in their last shell.

(a) three (b) five (c) six (d) seven

Ans: d

20. Which of the following statements about halogens is incorrect?

(a) Halogens have a tendency to accept an electron and form negatively charged ion.

(b) They form diatomic gases.

(c) They are good conductors of heat and electricity.

(d) They react with metals to form ionic halides.

Ans: c