

TRR Govt. Degree College(A), Kandukuru
Chemistry Major/Minor
UNIT-I Periodic Table
CHEMISTRY MCQs

1. What does the periodic law state?
 - A) Elements are arranged by increasing atomic mass.
 - B) Elements are arranged by increasing atomic number.
 - C) Elements are arranged by decreasing electron affinity.
 - D) Elements are arranged by decreasing atomic size.
2. In the periodic table, the elements are arranged in:
 - A) Groups and periods.
 - B) Clusters and blocks.
 - C) Rows and columns.
 - D) A and C are correct.
3. Which of the following is not a criterion for IUPAC nomenclature?
 - A) Atomic number
 - B) Atomic mass
 - C) Electron configuration
 - D) Oxidation state
4. Horizontal rows in the periodic table are known as:
 - A) Groups
 - B) Periods
 - C) Blocks
 - D) Families
5. Vertical columns in the periodic table are called:
 - A) Periods
 - B) Groups
 - C) Blocks
 - D) Series
6. Diagonal relationships are observed between certain elements in:
 - A) Adjacent groups and periods.
 - B) The same group.
 - C) The same period.
 - D) Non-adjacent groups and periods.
7. Which property generally increases across a period in the periodic table?
 - A) Atomic radius
 - B) Electronegativity
 - C) Electron affinity
 - D) B and C are correct.
8. Which property generally decreases down a group in the periodic table?
 - A) Atomic radius
 - B) Ionization energy
 - C) Electronegativity
 - D) B and C are correct.
9. What is the trend in ionic radii for cations and anions across a period?
 - A) Increases for both cations and anions
 - B) Decreases for both cations and anions
 - C) Increases for cations, decreases for anions
 - D) Decreases for cations, increases for anions
10. Ionization potential refers to:
 - A) The energy required to add an electron to an atom.
 - B) The energy required to remove an electron from an atom.
 - C) The change in energy when an electron is added to an atom.
 - D) The energy released when an atom forms a covalent bond.
11. Electron affinity is the:
 - A) Energy required to remove an electron from a neutral atom.
 - B) Energy released when an electron is added to a neutral atom.
 - C) Energy required to add an electron to a neutral atom.
 - D) Energy released when an electron is removed from a neutral atom.
12. Which scale is used to measure electronegativity?
 - A) Pauling scale
 - B) Mulliken-Jaffe scale
 - C) Allred-Rochow scale
 - D) All of the above
13. The concept of isoelectronic species refers to atoms or ions that have:
 - A) The same number of protons.
 - B) The same number of neutrons.
 - C) The same number of electrons.
 - D) The same atomic mass.
14. The inert pair effect is more pronounced in:
 - A) Alkali metals
 - B) Alkaline earth metals
 - C) p-block elements
 - D) d-block elements
15. Variable valency is often exhibited by:
 - A) Noble gases
 - B) Transition metals
 - C) Alkali metals
 - D) Halogens
16. Which of the following elements has the highest electronegativity?
 - A) Fluorine
 - B) Bromine
 - C) Chlorine
 - D) Iodine
17. Atomic radius generally decreases across a period due to:
 - A) Decrease in nuclear charge
 - B) Increase in nuclear charge
 - C) Decrease in electron shielding
 - D) Increase in electron shielding
18. Ionic radius of anions is generally ____ compared to their neutral atoms.
 - A) Smaller
 - B) Larger
 - C) The same
 - D) Unpredictable

19. Which of the following statements about ionization potential is true?
 - A) It decreases from left to right across a period.
 - B) It increases from left to right across a period.
 - C) It remains constant across a period.
 - D) It shows no general trend across a period.
 20. Electron affinity tends to ____ down a group in the periodic table.
 - A) Increase
 - B) Decrease
 - C) Remain constant
 - D) Fluctuate unpredictably
 21. The oxidation state of an element is indicative of:
 - A) Its electronegativity
 - B) Its electron affinity
 - C) The number of electrons lost, gained, or shared in a bond
 - D) Its atomic mass
 22. Pauling's electronegativity scale is based on:
 - A) Ionization energy and electron affinity
 - B) Atomic radius and ionic radius
 - C) Oxidation states
 - D) Covalent bond energies
 23. The Allred-Rochow electronegativity scale considers the:
 - A) Effective nuclear charge experienced by an electron
 - B) Distance between the nucleus and the valence electrons
 - C) A and B
 - D) Ionization energy only
 24. In the periodic table, the first ionization energy generally:
 - A) Decreases down a group
 - B) Increases down a group
 - C) Remains the same down a group
 - D) Increases across a period and decreases down a group
 25. The diagonal relationship is most notably observed between:
 - A) Lithium and Magnesium
 - B) Sodium and Aluminum
 - C) Potassium and Calcium
 - D) Beryllium and Silicon
13. C
 14. C
 15. B
 16. A
 17. B
 18. B
 19. B
 20. B
 21. C
 22. A
 23. C
 24. D
 25. A

Answers

1. B
2. D
3. B
4. B
5. B
6. A
7. D
8. D
9. B
10. B
11. B
12. D