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For Class 9th
English and Urdu Medium

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Qalam Coaching Center
**M.C.Q’s**

1. The atomic radii of the elements in the periodic table:
   (a) Increase from left to right in a period
   (b) Increase from top to bottom in a group
   (c) Do not change from left to right in a period
   (d) Decrease from top to bottom in a group

2. The amount of energy given out when an electron is added to an atom is called:
   (a) Lattice energy
   (b) Electronegativity
   (c) Ionization energy
   (d) Electron affinity

3. Mendeleev periodic table was based upon the:
   (a) Electronic configuration
   (b) Atomic number
   (c) Atomic mass

4. Long form of periodic table is constructed on the basis of:
   (a) Mendeleev postulate
   (b) Mass number
   (c) Atomic mass
   (d) Atomic number

5. 4th and 5th period of the long form of periodic table are called:
   (a) Short periods
   (b) Long periods
   (c) Normal periods
   (d) Very long periods

6. Which one of the following halogen has lowest electronegativity:
   (a) Fluorine
   (b) Bromine
   (c) Chlorine
   (d) Iodine

7. Along the period, which one of the following decreases:
   (a) Atomic radius
   (b) Electronegativity
   (c) Electron affinity
   (d) Ionization energy

8. Transition elements are:
   (a) All gases
   (b) All metals
   (c) All non metals
   (d) All metalloids

9. Mark the incorrect statement about ionization energy:
   (a) It is measured in kJ mol⁻¹
   (b) It decreases in a period
   (c) It is absorption of energy
   (d) It decreases in a group

10. Point out the incorrect statement about electron affinity:
    (a) It is measured in kJ mol⁻¹
    (b) It decreases in a period
    (c) It involves release of energy
    (d) It decreases in a group
Short Questions

Q1: Why noble gases are not reactive?
Ans: Noble gases are not reactive because their order of outermost shell is complete filled by electrons.

Q2: Why cesium (at. no 55) requires little energy to release its one electron present in the outermost shell?
Ans: Because the force of attraction between the nucleus and the outermost electron decreases due to increase in atomic size.

Q3: How is periodicity of properties dependent upon number of proton in an atom?
Ans: They vary when we move from left to right across the period or from top to bottom in any group.

Q4: Why shielding effect of electrons makes cat ion formation easy?
Ans: The greater the shielding effect of electrons, the lesser will be the valence electron nucleus attraction. As the force of attraction between the nucleus and the outer electron decreases, the removal of electron becomes more easily or with less energy.

Q5: What is the difference between Mendeleev’s periodic law and Modern periodic law?
Ans:

<table>
<thead>
<tr>
<th>Mendeleev’s Law</th>
<th>Modern Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>The properties of elements are the periodic function of their atomic Masses.</td>
<td>The properties of elements are the periodic function of their atomic Number.</td>
</tr>
</tbody>
</table>

Q6: What do you mean by Groups and Periods in a periodic table?
Ans:

<table>
<thead>
<tr>
<th>Groups</th>
<th>Periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vertical columns of elements in a periodic table.</td>
<td>The horizontal rows of elements in a periodic table.</td>
</tr>
<tr>
<td>There are 18 groups in the long form of the periodic table.</td>
<td>There are 7 periods in the long form of the periodic table.</td>
</tr>
</tbody>
</table>

Q7: Why and how elements arranged in 4th period?
Ans: We arranged elements in the periods on the basis of their properties. And elements are arranged in 4th period according to their atomic number.

Q8: Why the size of atom does not decrease regularly in a period?
Ans: The atomic size does not decrease regularly in a period due to poor shielding effect. This effect is quite remarkable in the transition elements of longer periods in which ‘d’ and ‘f’ sub shells are involved.

Q9: Give the trend of ionization energy in a period?
Ans: Ionization energy increases from left to right in a period:-
Reason:-
(a) Increase of Nuclear Charge
(b) Decrease in Atomic size

The End
Important Extra Short Type Questions

Q1: What do you know about triads?
Ans: “A group of three elements with similar chemical properties is called a triad”

Q2: What do you know about Doberenier’s Triads?
Ans: “In a triad of similar elements, the atomic mass of the middle element is equal to the average of the atomic masses of first and third element”

Q3: Define Normal Elements?
Ans: “All s-block and p-block elements excluding noble gases are called Normal elements”

Q4: Define Transition Elements?
Ans: “Elements in which ‘d’ subshell is in the process of completion are called transition elements”

Q5: Define Noble Gases?
Ans: “The gaseous elements of group 18 or zero group are called Noble gases”

Q6: What is meant by periodicity of properties?
Ans: “The repetition of similar properties after regular intervals in the periodic table is called periodicity of properties”

Q7: Define Atomic Radius?
Ans: “The half of the distance between the nuclei of the two bonded atoms is called Atomic radius”

Q8: Why Atomic radius decreases from left to right in a period?
Ans: Because with the increase of atomic number, the effective nuclear charge increases.

Q9: Why Atomic radius increases from top to bottom in a group?
Ans: Because the shielding effect is increases which decrease the effective nuclear charge.

Q10: Define Shielding effect?
Ans: “The effect of decrease in force of attraction between the nucleus and the valence electrons due to increasing number of inner shell electrons between is called Shielding effect”

Q11: Why Shielding effect does not change in a period?
Ans: Because in a period the number of inner shells remains the same.

Q12: Why Shielding effect increases from top to bottom in a group?
Ans: Because in a group the number of inner-shells increases.

Q13: Define Ionization energy?
Ans: “The amount of energy required to remove the most loosely electron from the valence shell of an isolated gaseous atom is called Ionization energy”

Q14: Why Ionization energy decreases from top to bottom in a group?
Ans: Because the size of atoms increases and shielding effect effect increases.

Q15: Why Ionization energy increases from left to right in a period?
Ans: Because the size of atoms decreases and shielding effect decreases.

Q16: Define Electron Affinity?
Ans: “The amount of energy released when an electron is added in the outermost shell of an isolated neutral gaseous atom to form a uninegative ion is called Electron Affinity”

Q17: Why Electron affinity increases from left to right in a period?
Ans: Because nuclear charge increases and atomic size decreases in a period.

Q18: Why Electron affinity decreases from top to bottom in a group?
Ans: Because the size of atoms increases down the group.

Q19: Define Electronegativity?
Ans: “The ability of an atom to attract the shared pair of electrons towards itself in a molecule is called electronegativity”

Q20: Why Electronegativity increases from left to right in a period?
Ans: Because nuclear charge increases and atomic sizes decrease.

Q21: Why Electronegativity decreases from top to bottom in a group?
Ans: Because atomic size increases down the group.

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