

SHORT QUESTION ANSWER

Q.1. What is Newlands' Law of Octaves?

Answer: The Newland s' law of octaves states that every eighth element has properties similar to that of the first when the elements are arranged in the increasing order of their atomic masses

Q.2. What was the basis of Mendeleev's classification of elements

Answer: Mendeleev's periodic table is based on the fact that the physical and chemical properties of elements are a periodic function of their atomic masses. It means that when the elements are arranged in order of increasing atomic masses, the elements with similar properties recur at regular intervals.

Q3. Which two observations in Mendeleev's periodic table posed a challenge to his Periodic Law?

Answer: The following observations posed a challenge to Mendeleev's Periodic Law:

(i) Increasing order of atomic weights could not be maintained while arranging elements with similar chemical properties. Chemical properties do not depend upon atomic mass.

(ii) Isotopes of all elements have different atomic mass but same chemical properties.

Q.4. Why do all the elements in a group of the Modern Periodic Table have similar chemical properties?

Answer: All the elements of a group of the

Modern Periodic Table have similar chemical properties because they have the same number of valence electrons in their outermost shell.

Q.5. Define Modern Periodic Law.

Answer: Modern Periodic Law states that properties of elements are a periodic function of their atomic number.

Q.6. How does the electronegativity of elements relate to their metallic or non-metallic character?

Answer: Electronegativity of an element is the tendency of its atom to attract electrons towards itself when bonded to the atom of another element. So, the elements that are electronegative, i.e., tend to form bonds by

gaining electrons are the non-metals. On the other hand, elements with low or negligible electronegativity are known as metals.