

SBOA SCHOOL AND JUNIOR COLLEGE

CHENNAI -101

Std - X

CHEMISTRY ASSIGNMENT – 6

1. Why do we classify elements?
2. Name the scientists who gave the following laws in the early classification of elements.
 - a) Law of Octaves
 - b) Law of Triads
3. A, B and C are elements of Dobereiner's triad .If the atomic mass of A is 7 and that of C is 39 what should be the atomic mass of B?
4. X and Y are the two elements having similar properties which obey Newland's law of octaves . How many elements are there between X and Y .
5. State one example of a Dobereiner's triad , showing in it that the atomic Mass of middle element is half – way between those of the other two.
6. What is Newland's law of octaves? Explain with an example.
7. How do the properties of eka- aluminium element predicted by Mendeleev compare with the actual properties of gallium element? Explain your answer.
8. Can the following groups of elements be classified as Dobereiner's triads
 - a) Na, Si, Cl
 - b) Be, Mg, CaGive reason for your answer.
(At mass : Be-9, Na-23, Mg-24, Si-28, Cl-35.5, Ca-40)
9. The atomic masses of three elements X, Y and Z having similar Chemical properties are 7, 23 and 39 respectively.
 - a) Calculate the average atomic mass of elements X and Z.
 - b) How does the average atomic mass of elements X and Z compare with the atomic mass of element Y.
 - c) Which law of classification of elements is illustrated by this example ?
 - d) Identify the elements X, Y and Z ?
10. A part of the early classification of elements has been given below
 - a) Which law of classification of elements is illustrated by the above arrangement of elements?
 - b) Name the scientist who proposed such a classification of elements ?
 - c) Why is such a classification of elements compared with a characteristic of musical scale?
 - d) State one limitation of this classification of elements?

- 11. What physical and chemical properties of elements were used by Mendeleev in creating his periodic table? List two observations which posed a challenge to Mendeleev's periodic law.**
- 12. Mendeleev left some gaps in his periodic table . Why?**
- 13. Name three Alkali metals which form a Dobereiner's triad.**
- 14. Which group of elements was missing from Mendeleev's original periodic table?**
- 15. In Mendeleev's periodic table , the elements were arranged in the increasing order of their atomic masses .Cobalt with atomic mass 58.93 amu was placed before Nickle having an atomic mass 58.71 amu . Give reason for the above statement.**
