Assignment on Periodic Classification of element

Class XI

Q1. Why was it necessary to change the basis of classification from atomic mass to atomic number?

Q2. (a) What is a metalloid?

(b) Give the names of the metalloids in the Periodic Table along with their atomic number.

(c) In which groups of the Periodic Table are they located?

Q3. List three anomalies of Mendeleev's periodic table which were removed in modern periodic table.

Q4. What were the limitations of Newlands' Law of Octaves?

Q5. Name:

(a) three elements that have a single electron in their outermost shells.

(b) two elements that have two electrons in their outermost shells.

(c) three elements with filled outermost shells.

Q6. In the Modern periodic table, calcium (atomic number 20) is surrounded by elements with atomic numbers12, 19, 21 and 38. Which of these have physical and chemical properties resembling calcium?

Q7. Can the following groups of elements be classified as Dobereiner's triad?

(a) Na, Si, Cl

(b) Be, Mg, Ca

Atomic mass of Be 9; Na 23; Mg 24; Si 28; Cl 35; Ca 40.

Q8. How many groups and periods are there in the modern periodic table? How do the atomic size and metallic character of elements vary as we move:

(a) down a group and

(b) from left to right in a period.

Q9. Three elements 'X', 'Y' ad 'Z' having atomic numbers 11, 7 and 6 respectively react with oxygen to form their oxides.

(a) Arrange these oxides in increasing order of their basic nature.

(b) Give reason for your answer.

Q10. Describe the basic character of the oxide of third period elements across the period.

Q11. Write the electronic configuration of xenon.

Q12. State three reasons for placing chlorine and bromine in the same group of Periodic Table.

Q13. An element of group 15 has atomic number 15. Write the number of shells in its configuration,. Write its configuration and find its valency. Examine if this element will have metallic properties or not.

Q14. Halogens are placed in a separate group in the Modern Periodic Table.

(a) State their group number.

(b) Why are they named halogen?

(c) What is the type of ions formed by them?

(d) Name any two halogens which are solid.

Q16. Name three elements which have only one electron in their outermost shell. How will their atomic size and metallic property change down the group?

Q17.What is meant by electronegativity? Explain why it increases across the period.

Q-18 what is diagonal relationship? What is its cause?

Q-19 What is inert pair effect? What is its cause?

Q-20 Discuss five factors on whic Ionisation enthalpy of elements depends.

Q-21 Electron gain enthalpy of chlorine is more negative than fluorine.Explain.

Q-22 Second Electron enthalpy is always positive.justify.

Q-23 Why Ionisation enthalpy of Ga is greater than Al?

Q-24 What are the two possible oxidation states exhibited by elements of group 15?

Q-25 Name three most electronegative elements of periodic table.