WORKSHEET – SA2 - IX CHEMISTRY

STRUCTURE OF ATOM

1) What is the difference between Na and Na^+ in terms of electrons
2) Who discovered the neutron?
3) The atomic number of Neon is 10. Write it's electronic configuration.
4) What are canal rays?
5) What are isotopes?
6) State one use of radioactive isotopes in the medical field.
7) What are isobars?
8) The number of valence ions in Cl^- ion are _____.
9) If Z=3, what would be the valency of the element?
10) If the symbolic representation of an atom is ${}^{6}_{3}X$, find it's valency, name, and also give the reason for the valency.
11) An atom of element has 2 electrons in K-shell, 4 electrons is L shell. What is the atomic number of an element. Identify the element.
12) Name the constituent of an atom.
13) Find the electron distribution for the element that has atomic number 20, and write it's valency.
14) Mention any 2 points Rutherford put forward to explain the nuclear model of an atom.
15) Why are the shells in which electrons revolve are called "energy levels"?
16) What are isotopes? Write 3 isotopes of Hydrogen. Why do isotopes show similar chemical properties.
17) a) State the limitations of J.J Thomson's model of an atom.
b)Define valency by taking the examples of Magnesium (atomic number = 12) and Oxygen (=8)
c) S^{2-} has completely filled K,L and M shells. Find its atomic number.
18) a) Describe Bohr's model of an atom. How did Neils Bohr explain the stability of an atom?

b) An element has an atomic number 11, and mass number 23. What Is the arrangement of electrons in the shells?

19) a) What is meant by atomic number and mass number of an element. Explain with the help of an example.

b) What is the relation between the atomic number and the mass number of an element?

c) If an element M has mass number 24 and atomic number 12, how many neutrons does it's atom contain?

20) A sample of an element X contains 2 isotopes ${}^{16}_{3}X$ and ${}^{18}_{3}X$. If the average atomic mass of this sample of the element be 16.2 u. Calculate the percentage of 2 isotopes in this sample.

21) a) What are radioactive isotopes. Give two examples.

b) Give any 2 uses of radioactive isotopes.

22) a) What are valence electrons? Where are valence electrons situated in the atom?

b) What is the number of valence electrons in the atom of an element having atomic mass 13? Name the valence shell of this atom.

VALUE-BASED QUESTIONS –

1) Iron is present in haeomoglobin which acts as oxygen-carrier in our body. Deficiency of iron leads to anaemia. It must be a part of our diet.
   a) Name a fruit which contains iron.
   b) Name one green vegetable which is rich in iron.
   c) How will you make students of your school aware that they must take iron in their diet regularly?
   d) Is iron a metal or non-metal?

2) During summer, many children suffer from dehydration. To combat *dehydration, non-alcoholic drinks may be given in plenty. Coconut-water,* barley-water, sugarcane juice, or glucose water are considered the best. Every cell in our body needs water in order to function. Our rbody contains about 70% of water.
   a) What is meant by dehydration?
   b) Name the elements present in water.
   c) Write the electronic configuration of both the elements present in water.
   d) Name the fruit containing maximum amount of water.
   e) How will you make children aware about taking sufficient amount of liquids and water to prevent dehydration?