Time : 45 mts

Std. IX **CHEMISTRY** Total Score : 20

Instructions:

- *Attempt the questions based on the instructions provided.*
- *Score for each question is provided against the concerned question.*

1 Choose the right answer.

a) An isotope which is used as a reactor fuel is : (Cobalt - 60, Uranium -235, Iodine -131, Carbon -14) 1

b) An element M exists as diatomic molecules, having a double bond in their structure. If so, the number of electrons in the outermost shell of an atom of M must be ; (1,2,4,6) 1

2 Based on the given model, fill up suitably.

a) Electon transfer : Ionic bond ; ..... : Covalent bond. 1

b) Chloride ion : Cl^- ; Magnesium ion : 1

3 An important observation relating to Rutherford's alpha scattering experiment is as follows:

"Most of the alpha particles passed through the gold foil without any deviation."

What inference did Rutherford arrive at based on this? 1

4 $^{14}_{6}C$ and $^{12}_{6}C$

Can we consider the two atoms given in the box as a pair of isotopes? Explain with reason. 2

5 Electronegativity values of some elements are shown below.

H = 2.2, O = 3.5, F = 4, S = 2.58

Check whether the bond that exists in SO_2 molecule is ionic or covalent, based on the electronegativity values. 2

6 In column 'A' of the following table, the names of some scientists are listed and their contributions are given in column 'B', but in a disordered form. Match them suitably.

A	B
John Dalton	Law of constant proportion
Joseph Proust	Plum pudding model
J.J Thomson	Planetary model
Rutherford	Atomic theory

2

7 NaCl and CCl_4 are two compounds with a close similarity; that is both them are Cloride compounds. Yet, they do differ much in their properties.

i) What must be the reason for this difference? 1

ii) Write any two pair of differences seen in their properties. 2

8 The mass number of an atom R is 23. The M shell of this atom contains just one electron.

a) Write down the electron configuration of the atom R. 1

b) What is the atomic number of R? 1

c) How many neutrons does R have? 1

9 Draw the Bohr model of the atom $^{19}_{9}F$. 3