**NORTH POINT SENIOR SECONDARY BOARDING SCHOOL.**

**Matiagacha,       Khari Bari Road.    Rajarhat .Kolkata-700135.**

**CLASS -XI. SCIENCE**

**SUBJECT: CHEMISTRY.**

**HOME WORK.                        SUMMER VACATION.**

Answer the following questions:

1. Define the following: (a) Law of conservation of mass (b) Law of definite proportion.

( c) law of multiple proportion. ( d) relative atomic mass ( e) average atomic mass

( f) formula mass.

2. What is the necessity of average atomic mass?

3. Compare relative atomic mass and average atomic mass.

4. What is the mass of one atom of hydrogen?

5. What is the mass of one atom of carbon?

6. Calculate the average atomic mass of chloride atom **17Cl 35    (75 % ) and   17Cl 37  (25 %) .**

7. Calculate the average atomic mass of carbon from its isotopic abundance.

8. Define isotope with example.

9. Why is definite proportion also known as constant proportion?

10. What is molecular mass?

11. State Avogadro’s hypothesis.

12. State Gay Lussac’s law of gaseous volume.

13.  Who is known as the father of modern chemistry?

14. What is the full form of amu?

15. One amu is equal to how much gram?

16.  Calculate the molecular mass of glucose.

17. calculate the molecular mass of  (a) nitric acid (b) sulphuric acid (c) oxalic acid. (d) Formic acid

(e)  Acetic acid ( f) acetone (g) ethanol. (h) Sodium hydroxide. ( i) sodium acetate.

18. Who has discovered the law of definite proportion?

19. Give an example of law of multiple proportion.

20. How many neutrons are there in ordinary hydrogen atom  **1H1** ?

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**CLASS -XI. SCIENCE       SUBJECT: CHEMISTRY.                                WORK SHEET -1**

Answer the following questions.

1. From the following data calculate the average atomic mass of chlorine.

|  |  |  |
| --- | --- | --- |
| atom | % Natural abundance | Molar mass |
| **17Cl 35** | 75.77 | 34.9689 |
| **17Cl 37** | 24.23 | 36.9659 |

The average atomic mass of Cl is ………………………….

2. The following data are obtained when dinitrogen and dioxygen react together to form different compounds:

|  |  |  |
| --- | --- | --- |
|   | Mass of dinitrogen | Mass of dioxygen |
| (i) | 14  g | 16  g |
| (ii) | 14  g | 32  g |
| (iii) | 28  g | 32  g |
| (iv) | 28  g | 80  g |

(a)  Which law of chemical combination is obeyed by the above experimental data?

( b) write down the statement of the law.

3. Fill in the blanks:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | No. of proton. | No. of electron | No. of neutron | Symbol | Name |
| **1H1** |   |   |   |   |   |
| **1H2** |   |   |   |   |   |
| **1H3** |   |   |   |   |   |

4. Which one of the following will have largest number of atoms?

(i) 1  g  Au  (s)

(ii) 1  g  Na  (s)

(iii) 1  g   Li (s)

(iv) 1  g   of Cl2 (g)

5. When 4.2 g of NaHCO3 is added to a solution of  CH3COOH   weighing 10 g., it is observed that 2.2 g of CO2is released into atmosphere. The residue is found to weigh 12.0 g. show that these observations are in agreement with the law of conservation of mass.

6. If 6.3 g of NaHCO3 are added to 15.0 g   CH3COOH  solution , the residue is found to weigh 18.0 g.

What is the mass of CO2 released in the reaction?

7. Deduce the relation between molecular mass and vapour density.

8. Boron occurs in nature in the form of two isotopes having atomic masses 10 and 11. What are percentage abundance of these isotopes in a sample of boron having average atomic mass of 10.8?

9. Calculate the mass of 1.2 gram of oxygen.

10. The average atomic mass of copper is 63.5. It exists as two isotopes which are  **29Cu63**and **29Cu65** .

Calculate the percentage of each isotope present in it.