Provincial Department of Education -Sabaragamuwa - Week school

Week : May I

Subject - Science

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Grade 10

07.Quantification of Elements and Compounds

1.Define atomic mass unit.

2.Fill in the blanks.

Atomic mass unit = _____

3. Define relative atomic mass.

4. Write an expression for relative atomic mass.

5. The mass of a ^{12}C atom is 1.99×10^{-23} g ($\sim 2 \times 10^{-23}$ g).The mass of a Potassium (K) atom is 6.476×10^{-23}g ($\sim 6.5 \times 10^{-23}$ g). Find the relative atomic mass of K.

6. Define relative molecular mass.

7. Mass of a water molecule is 2.99×10^{-23} g ($\sim 3 \times 10^{-23}$g).The mass of ^{12}C atom is 1.99×10^{-23}g ($\sim 2 \times 10^{-23}$g). Find the relative molecular mass of H_2O.

8. Calculate the relative molecular mass of H_2O using the relative atomic mass. (H=1,O=16)

9. Define Avogadro constant.

10. If Mg=24, calculate the number of Mg atoms in 12g of Mg, 24g of Mg and in 48g of Mg.

11. What is the SI unit used to measure the amount of substances?

12. Define the term "mole".

13. If Na=23, find the mass of 1mol of Na.

14. Find the number of moles of H_2O molecules in 360g of H_2O .(H=1,O=16) (Use the relationship n=m/M).

15. i. Find the relative molecular mass of Urea ($CO(NH_2)_2$). C=12,O=16, N=14, H=1.
ii. Find the molar mass of Urea.
iii. Find the number of Urea molecules in 120g of Urea