QUIZ CHAPTER 1: MATTER

Answer all questions.

1 Choose the correct definition of isotope.

A. two or more atoms of the same element with same number of protons but different number of neutrons.
B. two or more atoms of the same element with same number of protons but different number of electrons.
C. two or more atoms of the same elements with same number of nucleon but different number of neutrons.
D. two or more atoms of the same element with same number of electrons but different number of neutrons.

2 Choose the isotope notation of oxygen with proton number of 8 and nucleon of 16.

A. $^{16}_{6}O$ B. $^{8}_{16}O$

C. $^{16}_{8}O$ D. $^{6}_{8}O$

3 Mass spectrum of chlorine is shown in Figure 1. Based on Figure 1, determine the relative atomic mass for Chlorine.



A. 35.49 B. 35.33
C. 36.23 D. 36.72

4 Analysis of a gaseous hydrocarbon compound gives the following mass 85.7% C and 14.3% H. Determine the empirical formula [Ar C = 12.01 , Ar H= 1.01]

A. CH_2 B. C_2H_4
C. CH_4 D. C_2H_5

5 The density of 95% by mass of sulphuric acid, H_2SO_4 is 1.84 g mL^{-1}. Calculate the number of moles of H_2SO_4, [Mr H_2SO_4 = 98.09 ; H_2O = 18.02]

A. 0.04 B. 2.31
C. 0.97 D. 0.34

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6 The density of 95% by mass of sulphuric acid, H_2SO_4 is 1.84 g mL^{-1}. Calculate the volume of H_2SO_4 solution (in Litre).

A. 0.34
B. 0.31
C. 0.024
D. 0.054

7 The density of 95% by mass of sulphuric acid, H_2SO_4 is 1.84 g mL^{-1}. Calculate the molarity of H_2SO_4 solution

A. 1.80 M
B. 10.23 M
C. 17.96 M
D. 15.50 M

8 2.00g of Sodium, Na is reacted with 2.45g Chlorine gas, Cl_2 to produce sodium chloride, NaCl. (Ar Na: 23; Cl : 35). Determine the limiting reactant.

A. Na
B. Cl_2
C. NaCl
D. Cl

9 2.00g of Sodium, Na is reacted with 2.45g Chlorine gas, Cl_2 to produce sodium chloride, NaCl. Calculate the mole of the excess reactant remaining after the reaction is completed.

A. 8.70×10^{-2}
B. 6.90×10^{-2}
C. 1.80×10^{-2}
D. 1.80×10^{-3}

10 2.00g of Sodium, Na is reacted with 2.45g Chlorine gas, Cl_2 to produce sodium chloride, NaCl. If 80% of NaCl is produced in the experiment, calculate the actual mass of NaCl produced.

A. 3.23 g
B. 4.53 g
C. 2.32 g
D. 2.62 g

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