2011-2012

Subject : Chemistry **Std.- XI / Sec.:** **Worksheet :4**

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CHAPTER : SOME BASIC CONCEPTS OF CHEMISTRY

Q1.	How is atmosphere related to kilopascal ?	1M
Q2.	What is the difference between 5 g and 5.0 g ?	1M
Q3.	What is the length in centimeters of a glass rod 7.82 inches long ?	1M
Q4.	Calculate the mass of 3 g molecules of nitric acid.	1M
Q5.	Differentiate between molecular mass and formula mass.	1M
Q6.	What will be the mass of one ^{12}C atom in g ?	2M
Q7.	Calculate the total number of electrons present in 1.6 g of methane.	1M
Q8.	How is empirical formula related to its molecular formula ?	1M
Q9.	What is the mass in grams of one molecule of caffeine ($C_8H_{10}N_4O_2$) ?	1M
Q10.	Explain precision and accuracy with suitable examples.	2M
Q11.	Carbon and oxygen are known to form two compounds. The carbon content in	

one of these is 42.9% while in the other it is 27.3%. Show that this data is in agreement with the law of multiple proportions. 2M

Q12. A fluoride of oxygen was prepared by mixing oxygen and fluorine in the proper ratio at 60K. This compound contains 32.1 % F and 67.9 % O. What is the empirical formula of the compound ? 2M

Q13. Calculate the percentage of water of crystallization in $CuSO_4.5H_2O$. 2M

Q14. Calculate the molarity of a solution of ethanol in water in which the mole Fraction of ethanol is 0.040. 2M

Q15. Define the following (i) Molarity (ii) Molality (iii) Molefraction 3M

Q16. State and explain the following laws:

(i) Law of multiple proportions (iii) Avogadro's law

(ii) Gay Lussac's law of combining Volumes 3M

Q17. (a) How many significant figures are there in (i) 202.50 (ii) 9.78×10^{-24}

(iii) 29.6 ?

(b) Round off the following into three significant figures:

(i) 5.685 (ii) 0.9865 (iii) 8.5236

Q18. Calculate (i) the molality of the solution (ii) the mole fraction of sugar. 3M

(ii) Calculate the number of atoms in each of the following:

(a) 3.2 g of sulphur (b) 0.5 mole atoms of nitrogen.

2M