

2011-2012

Subject : Chemistry

Std.- XI / Sec.:

Worksheet :1

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 ($\text{C}_8\text{H}_{10}\text{N}_4\text{O}_2$) ? 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 $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. 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