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**Max Time : 1 hr** **Class : 11th Chemistry Max Marks : 30**

**Unit Test**

1. Explain Molarity with its formula and unit. [ 1 ]
2. Define Isotopes with example. [ 1 ]
3. Write the units of Molality. [ 1 ]
4. Write the relation between Molarity and Normality. [ 1 ]
5. Convert the following into meter : (a) 2 nanometer (b) 4 Picometer [ 1 ]
6. Calculate radius of 2nd orbit of Hydrogen atom. [ 1 ]
7. A golf ball has a mass of 40 g and a speed of 45 m/sec. If speed can be measured within accuracy of 2 %, calculate the uncertainty in position. [ 2 ]
8. Two particles A and B are in motion. If the wavelength associated with particle A is 5 x 10 – 8 m, calculate the wavelength associated with particle B if its momentum is half of A. [ 2 ]
9. A bivalent metal has an equivalent mass of 32. Calculate the molecular mass of the metal nitrate. [ 2 ]
10. 20 mL of a mixture of oxygen (O2) and ozone (O3) was heated till ozone was completely decomposed. The mixture on cooling was found to have a volume of 21 mL. Calculate the percentage of ozone by volume in the mixture. [ 3 ]
11. 4 g carbon were heated with 8 g sulphur. How much carbon disulphide (CS2) will be formed when the reaction is complete? What will be its percentage purity? [ 3 ]
12. How many orbitals are present in the subshells with : [ 3 ]

(a) n = 3 , l = 2 (b) n = 4 , l = 1 (c) n = 5 , l = 0

1. Gastric juice contains about 3 g HCl per litre. If a person produces about 2.5 litre of gastric juice per day, how many antacid tablets each containing 400 mg of Al(OH)3 are needed to neutralized all the HCl produced in one day. [ 3 ]

OR

A gas mixture of 3 litres of propane and butane on complete combustion at 25 produced 10 litres of CO2. Find out the composition of the gas mixture.

1. Explain Ionization Energy and write 2 factors on which it depends. [ 3 ]
2. The atomic spectrum of hydrogen is found to contain a series of lines at wavelengths 656.46 , 486.27 , 434.17 and 410.29nm. What will be the wavelength of the next line in the series? [ 3 ]