**Tutorial (1)**

* **Q1:Calculate the following:**

1. The weight in grams of 0.45 moles of glucose?
2. The weight in grams of 1x1023 molecules of NaCl?
3. The number of moles of in 2.25g glycine?

* **Q2:Calculate the Normality of the following solutions:**

1. 250ml of HCl containing 18.25g of HCl?
2. 49 g of H2SO4in 250ml?

* **Q3: 12.25g of H3PO4 was dissolved in water and the volume made up to 100ml calculate the Normality of the solution?**
* **Q4: 20g of NaCl was dissolved in 200ml of water what is its W/V%?**
* **Q5: How many ml of 0.8M acetic acid (CH3COOH) are needed to prepare 200ml of 0.4N acetic acid?**
* **Q6: Calculate the Molarity of a 10% W/V% MgCl2 solution?**
* **Q7: How would you prepare 0.2L of 0.3% W/V% of MgCl2?**
* **Q8: Describe the preparation of 2L of a 0.23M H2SO4 solution starting from a stock solution of H2SO4 92% W/W%, SG=1.84 g/ml?**
* **Q9: Calculate the molarity of H2SO4 which has a molality of 6.8 molal, P=1.48 g/ml?**
* **Q10: Describe how to prepare a 400 ml, 1:8 dilution of a disinfectant solution from stock solution provided using water as your diluent.**
* **Q11: You are provided with 3ml of a 100 mg/ml stock solution of ampicillin and requested to prepare dilute it a final concentration of 25mg/ml and final volume of 200µl. Calculate the volume of stock solution needed? Describe the preparation process.**
* **Q12: An100.0 mL of 2.500 M KBr solution is on hand. You need 0.5500 M. What is the final volume of solution which results?**
* **Q13: Form the following serial dilution answer the following (stock solution is 0.4M) Calculate:**
  1. The dilution factor?
  2. The concentration of tube 4 and 7 in the serial dilution.

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