SUPPLEMENTARY QUESTIONS

1. To prepare 3 M 250ml NaOH solution, from 20% by mass NaOH solution. How many grams of NaOH must be used? (NaOH: 40)

2. Which 0.4 M KCl and 0.6 M K_2SO_4 solutions are mixed, the concentration of K+ ion is 0.6 M and the volume is 400 ml. What is the initial volume of K_2SO_4 solution?

3. The density of ethyl alcohol (C_2H_5OH) is 0.8gr/ml. What is the molar concentration of ethyl alcohol solution? Which is 46% percentage by volume? (C: 12, H: 1, O: 16)

4. The concentration of Br ion of 200 ml solution is 2 M by using 80 gram XBr_2 salt. What is the atomic mass of X? (Br : 80)

5. In order to dissolve 3.6 gram of Mg. How many ml of H_2SO_4 of which the concentration of H+ ion is 2 M must be used? (Mg: 24)

6. An ionic XY2 salt solution with a density 1.6 gr/ml is 4 M. What is the percentage of the salt solution by mass? (X: 40, Y:80)

7. When 1 mol KNO_3 is dissolved in 500ml water,, the boiling point increases by X°C. How many L of water must be used to dissolve 2 mol $AlCl_3$ by which boiling point increases by 2X°C?

8. To 20% 250 gram salt solution, how many grams of salt must be added when half of the solution evaporated to obtain 50% solution by mass?

9. When 200 ml. 3 M NaCl and 300 ml. 0.5 M $AlCl_3$ are mixed, what will be the concentration of Cl^- ions in the final solution?

10. How many grams of water must be evaporated to obtain 50% solution by mass from 200 gram 20% by mass sugar solution?

11. In order to neutralize 250 gram 20% by mass NaOH solution, how many ml of 2 M HCl must be used? (NaOH: 40)

12. If we add 300ml of pure water to 1 M $Mg(NO_3)_2$ solution the concentration of NO^{3-} ion will be 0.5 M. So what is the initial volume of the solution in ml?

13. When 200 grams NaOH solution 20% by mass and 2 M and 200 ml H_2SO_4 are mixed, how many moles of Na_2SO_4 are formed? (NaOH: 40)

14. What will be the mass ratio in order to obtain 35% solution from 20% and 40% solutions?