** **ATAR Chemistry – Unit 1 & 2**

**Practical Validation Quiz**

Name: Total Score: /36

**Exp. 22 – Solubility Rules**

1. Fill in the following table with the colour of the precipitate, write “NR” if there is no precipitate formed and the colour of the solution (if no colour write clear) , if there is when each combination of solutions is mixed together. [6]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Solutions | NaNO3 | NaCl | Na2SO4 | Na2CO3 |
| CuSO4 |  |  |  |  |
| Pb(NO3)2 |  |  |  |  |
| BaCl2 |  |  |  |  |

**Experiment 26- pH of Materials Around the House and common acids and bases**

2. Identify the following as either ***acidic****,* ***basic*** *or* ***neutral*** when in solution: [2]

* 1. Lemon juice …………..
  2. Household ammonia ……………..
  3. Sugar ………………..
  4. milk ……………………

3. Consider the 1 M solutions of H2SO4, HCl, NaOH, CH3COOH, NH3. Place each chemical in the table below. [3]

|  |  |  |
| --- | --- | --- |
| pH > 7 | pH = 7 | pH < 7 |
|  |  | H2SO4 |
| NaOH |  | HCl |
|  |  | CH3COOH |
| NH3 |  |  |
|  |  |  |

4. Describe and explain any physical or chemical test that could be used to place the unknown solutions in the three groups [3]

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**Experiment 29- Electrical Conductivity of Acids and Bases**

5. a) In Expt 29 you measured the current between two electrodes. Explain how solutions of acids and bases conduct an electric current. [2]

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6. Explain how the variables of ‘strong’ vs ‘weak’ and ‘concentrated’ vs ‘dilute’ affect the conductivity of an acid. [4]

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7. Give an example of each of the following : [2]

Strong acid : *\_\_\_\_\_\_\_\_\_\_\_\_\_* Weak acid: *\_\_\_\_\_\_\_\_\_\_\_\_\_* Weak base \_\_\_\_\_\_\_\_\_\_Strong base : *\_\_\_\_\_\_\_\_\_\_\_\_*

8. Name 2 safety precautions you had to take with this experiment [2]

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**Exp. 31/32 – Acid reactions with some metal compounds and metals**

9. Write ionic equations for the reactions between each of the following: [5]

* + 1. hydrochloric acid and a solution of sodium hydroxide

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* + 1. hydrochloric acid and powdered copper (II) oxide

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* + 1. hydrochloric acid and solid calcium carbonate

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* + 1. sulphuric acid and a solution sodium hydrogen carbonate

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* + - * 1. Write an ionic equation for the reaction between any reactive metal and hydrochloric acid.

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10. [ 3 marks]

a) How would you test for CO2? \_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

b) How would you test for H2 (g)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Write the chemical reaction involved for the test in (b)?  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

11. 20ml of an unknown concentration of hydrochloric acid fully reacted with 0.513g of calcium carbonate (Q9, equation iii). Calculate the concentration and pH of the HCl, assuming all of the hydrochloric acid reacts. [4 marks]

**End of Quiz**