**CHEMISTRY HONORS HOMEWORK 5.1 – ACIDS, BASES, SALTS AND NEUTRALIZATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | Complete the following table: | | /6 |
| **2.** | Write balanced equations, with state symbols, for the following reactions: | |  |
|  | (a) | magnesium hydroxide powder with dilute hydrochloric acid | /3 |
|  | (b) | dilute sulfuric acid with sodium carbonate solution | /3 |
|  | (c) | Ammonia solution with dilute nitric acid | /3 |
| **3.** | (a) | Describe what you would see as reaction 2 (a) was taking place. | /2 |
|  | (b) | State a useful application of reaction 2 (a). | /1 |
|  | (c) | Explain how you would prepare a pure sample of the salt produced in reaction 2 (a). | /3 |
|  | (d) | Explain why it is much easier to produce a pure sample of salt from reaction 2 (a) than from reactions 2 (b) or 2 (c) | /2 |

|  |  |  |  |
| --- | --- | --- | --- |
| **4.** | In terms of the concentration of H+ and OH- ions, explain what it meant by the terms:  acidic solution …………………………………………………………………………………………………………………………….  alkaline solution ………………………………………………………………………………………………………………………….  neutral solution …………………………………….……………………………………………………………………………………. | | /3 |
| **5.** | (a) | What is the concentration of H+ ions in a solution with a pH of 5? | /1 |
|  | (b) | What is the pH of a solution containing an OH- concentration of 1 x 10-4 mol/L? | /2 |
|  | (c) | What is the hydrogen ion concentration and the hydroxide ion concentration in a solution with a pH of 12?  H+ concentration: …………..…….. mol/L OH- concentration: ……………..…….. mol/L | /2 |
| TOTAL | | | /30 |