



AECHE Task 12

Multiple Choice Answer Sheet

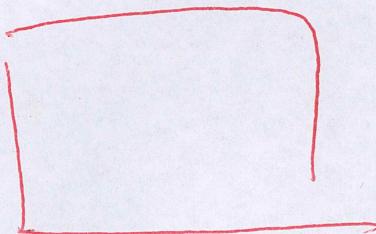
Task Number: _____ Name: Solutions. Year: 2021.

Multiple Choice – 12 questions.

Circle your choice. If you change your mind, scrub your choice out and circle the one you want. If it is messy, clearly write your choice next to question.

1. A B C D
2. A B C D
3. A B C D
4. A B C D
5. A B C D
6. A B C D
7. A B C D
8. A B C D
9. A B C D
10. A B C D
11. A B C D
12. A B C D

M/C

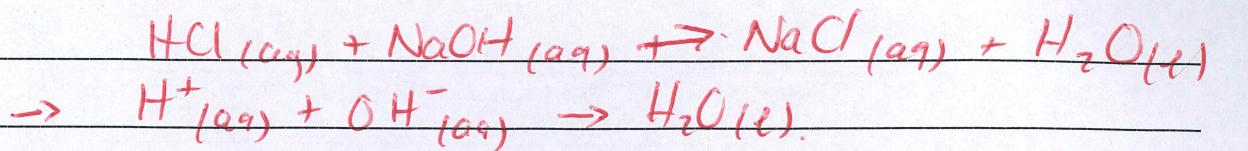


Section 2: Short Answer

Write your answer in the spaces provided

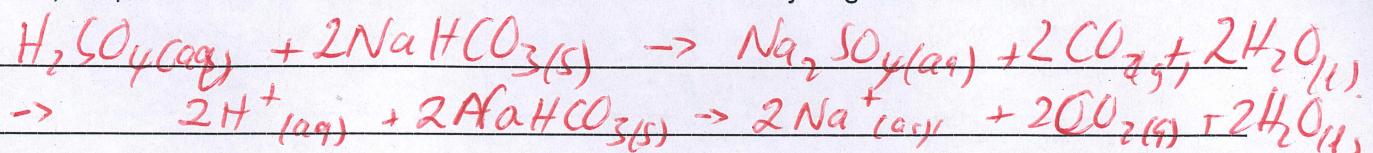
13. Write balanced ionic equations and observations for the following reactions

a) Aqueous solutions of hydrochloric acid and sodium hydroxide are combined



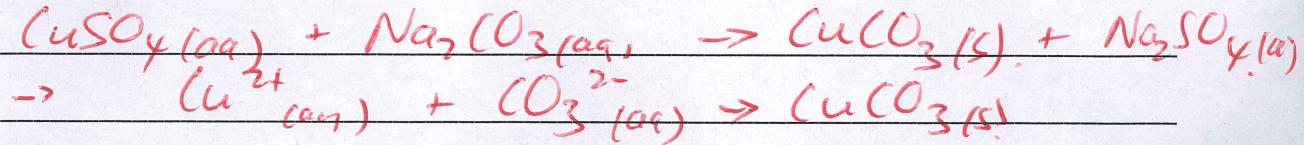
Obs - exothermic (heat) no colour change.

b) Aqueous sulfuric acid is combined with solid sodium hydrogen carbonate



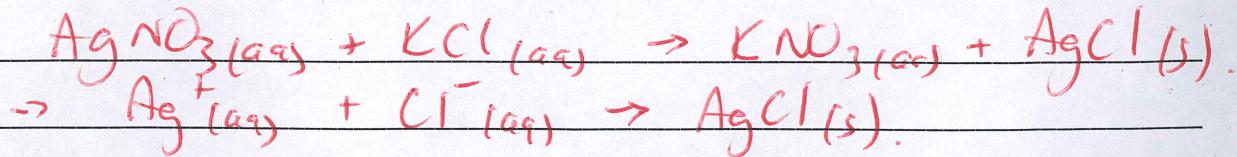
Obs - no colour change. (colourless) gas evolved.

c) Solutions of copper (II) sulfate and sodium carbonate are mixed



Obs - The blue solution decreases in intensity
A green solid formed.

d) Solutions of silver nitrate and potassium chloride are mixed



Obs - A white solid formed.

(8 marks)

14. What volume of 1.50 M HCl solution could be made up from 10.5mL of 12.0 M HCl solution?
(3 marks)

$$C_1 V_1 = C_2 V_2$$

$$\frac{V_2}{C_2} = \frac{12 \times 0.0105}{1.5}$$
$$= \underline{\underline{84 \text{ mL}}}$$

15. Determine the pH of the following: (3 marks)

a) 1.0 M hydrochloric acid

$$\text{pH} = -\log [1] = 0$$

b) 0.05 M sodium hydroxide

$$[\text{H}^+] = \frac{1 \times 10^{-14}}{0.05} = 2 \times 10^{-13}$$
$$-\log(2 \times 10^{-13})$$

END OF TEST

$$\text{pH} = 12.7.$$

②