

國立高雄師範大學九十五學年度碩士班招生考試試題

系所別：科學教育研究所

科 目：化學（全一頁）

- 一、What is the molarity of a solution that is 100mL of 10.0 g HCl? (The molar mass of HCl is 36.5 g/mol) (10%)
- 二、Many soft drinks contain carbonic acid and phosphoric acid. If the hydronium ion concentration of a cola beverage is 1×10^{-3} M, what is the pH? (10%)
- 三、Draw as many different isomers as you can that have the formula C_5H_{12} . (10%)
- 四、Write the equation for the formation of an ester from acetic acid (CH_3COOH) and ethanol (C_2H_5OH), and give its name. (10%)
- 五、What is a peptide bond? (10%)
- 六、Explain the following terms : (50%)
 - a. Effusion
 - b. Colligative property
 - c. Critical point
 - d. Geometrical isomerism
 - e. Law of conservation of energy
 - f. Hund's rule
 - g. Heat capacity
 - h. Octet rule
 - i. chelate effect
 - j. Hess's law