

淡江大學 107 學年度日間部轉學生招生考試試題

系別：化學工程與材料工程學系
二年級

科目：普通化學

5-1

考試日期：7月26日(星期四) 第1節

本試題共 2 大題， 1 頁

第一部分：解釋名詞（每題5分，共30分）

1. Isotope
2. Dilution
3. Hydration
4. Combustion
5. Equivalence point
6. Electrolyte

第二部分：問答題與計算題（共70分）

1. Name the following compounds. (15 pts)

(a) NaCl (b) H₂O₂ (c) NaH (d) O₃ (e) Na₂CO₃

2. Draw the Lewis structure of the following compounds. (15 pts)

(a) CO (b) SF₆ (c) XeF₄

3. Consider the titration of 50 mL of 0.1 M acetic acid (HC₂H₃O₂, $K_a = 1.8 \times 10^{-5}$) by 0.1 M NaOH.

- (a) Calculate the pH of the initial solution of 0.1 M acetic acid. (10 pts)
- (b) Calculate the pH of the resulting solution after 25 mL of NaOH have been added. (10 pts)
- (c) Calculate the pH of the resulting solution after 50 mL of NaOH have been added. (10 pts)
- (d) Calculate the pH of the resulting solution after 60 mL of NaOH have been added. (10 pts)