

大葉大學 94 學年度轉學招生考試試題紙

系	組	別	日\ 第二部	年級	考試科目 (中文名稱)	考試日期	節次	共 備註
生物	產學	科技	日	二	普通化學	7月12日	四	共 備註 攜帶不可能 計算機

註：考生可否攜帶計算機或其他資料作答，請在備註欄註明（如未註明，一律不准攜帶）

13:30 ~ 14:50

答案必須依題號次序排列，否則不予記分

選擇題（每題 5 分）單選最適答案

1. What electron sublevel starts to fill after completion of the 3d sublevel? A. 4s  
B. 5s C. 3p D. 4p
2. When the elements of Group 7A form ions, the number of electrons gained is  
A. 0 B. 1 C. 2 D. none of above.
3. A reaction is spontaneous at all temperatures when  $\Delta S$  and  $\Delta H$  are respectively  
A. positive, negative B. positive, positive C. negative, negative D. negative, positive.
4. A reaction is spontaneous at high temperatures when  $\Delta S$  and  $\Delta H$  are respectively  
A. positive, negative B. positive, positive C. negative, negative D. negative, positive.
5. Catalysts reduce which of the following? A.  $\Delta S$  B.  $\Delta H$  C. activation energy D. free energy.
6. Which of the following chemicals is a strong electrolyte? A. KCl B. HCN  
C. acetic acid D. citric acid.
7. You need to dilute 25.0 mL of a 3.00 M HCl solution to make a 0.150 M HCl solution. What is the volume of diluted solution after you add water? A. 475 mL B. 500 mL C. 525 mL D. 550 mL.
8. Which of the following does not have a double bond? A. aldehyde B. ketone  
C. carboxylic acid D. hexane.
9. When small amounts of acid or base are added, the solution resists a change in pH. Such a solution is a/an A. ideal B. stable C. buffer D. inert solution..
10. An enzyme is a A. protein B. lipid C. hormone D. carbohydrate.

計算題 須詳述計算過程並算出正確答案

11. A 25.0 mL sample of an HCl solution is titrated with NaOH. If 32.6 mL of a 0.185 M NaOH is needed to reach the endpoint, what is the concentration (M) of the HCl solution? (10)
12. Melamine contains 28.57% carbon, 4.80% hydrogen, and 66.64% nitrogen. If the molar mass is 126.13 g, what is the molecular formula of melamine? (20)  
C = 12.01, H = 1.008, N = 14.01

化學平衡

13. Use half-reactions to balance the following reaction in acidic solution.

