

中國文化大學 101 學年度暑假轉學招生考試

系組：生命科學系三年級

日期節次：7 月 24 日第 2 節 10:50-12:10

科目：生物化學

選擇題: 30% (要標示題號, 否則不計分/ 每題各佔 5%)

1. The formation (形成) of a peptide bond between two amino acids is an example of a(n) _____ reaction.
 - A. cleavage
 - B. condensation
 - C. group transfer
 - D. isomerization
 - E. oxidation reduction

2. For amino acids with neutral R groups, at any pH below the pI of the amino acid, the amino acids in solution will have:
 - A. a net negative charge
 - B. a net positive charge
 - C. no charged groups
 - D. no net charge
 - E. positive and negative charges in equal concentration

3. Enzymes is a biological
 - A. Substrates
 - B. Solvents
 - C. Catalysts
 - D. Inhibitors
 - E. Deterrents

4. A fatty acid containing (含有) at least two double bonds is called
 - A. cholesterol
 - B. saturated
 - C. polyunsaturated
 - D. dehydrogenase
 - E. monounsaturated

5. starch is a
 - A. $\beta(1\rightarrow6)$ -linked manose polysaccharide
 - B. $\beta(1\rightarrow6)$ -linked glucose polysaccharide
 - C. $\alpha(1\rightarrow6)$ -linked glucose polysaccharide
 - D. $\alpha(1\rightarrow4)$ -linked glucose polysaccharide
 - E. $\alpha(1\rightarrow4)$ -linked mannose polysaccharide

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雙 面 印 刷

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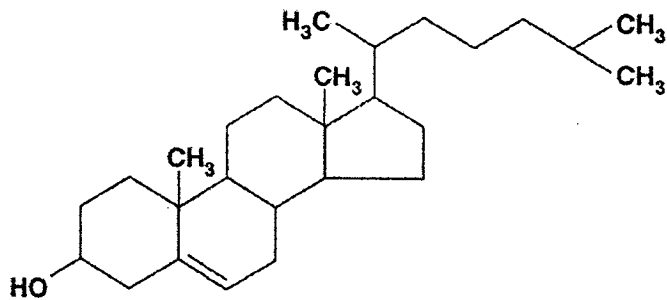
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U-3-7

6. This compound (分子) is an example of a(n)



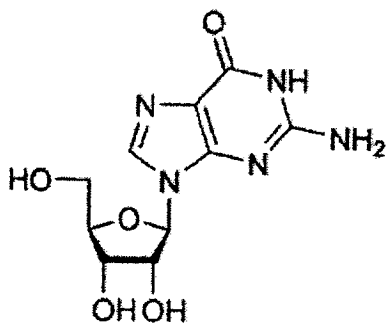
- A. protein
- B. steroid
- C. polysaccharide
- D. lipid
- E. polypeptide

問答題70% (要標示題號, 否則不計分)

7. 化學反應的自由能變化是一個非常重要的指標, 依下列所敘述, 形容化學反應的自發性和能量釋放的狀況: (30%)

- a) 如果化學反應的 $\Delta G < 0$ (10%)
- b) 如果化學反應的 $\Delta G > 0$ (10%)
- c) 如果化學反應的 $\Delta G = 0$ (10%)

8. 圖中的分子英文名稱為何? 其分子屬於生物四大分子中的那一類? (20%)



第2頁共2頁

本試題採
双面印刷

9. 何謂 diastereomers? (10%)

10. A weak acid has a $pK_a = 5.0$.

1.0 mol of this acid and 0.1 mol of NaOH were dissolved in one liter of water. What is the final pH be? (10%)