

臺中健康暨管理學院

九十四學年度碩士班暨碩士在職專班招生考試試題紙

系所別	組別	考試科目	考試日期	時間	備註
生活應用科學學系碩士班	--	生物化學	94.4.24	10:30-12:10	共二頁



選擇題 (每題 2 分, 合計 10 分)

1. 光合作用所釋放出來的 O_2 是來自於 (1) H_2O (2) CO_2 (3) $[CH_2O]$ (4) HSO_3^-
2. Amylose 被水解後不會產生 (1) glucose (2) maltose (3) maltotriose (4) dextrin
3. 許多人喝牛奶感到不適是因為缺乏 (1) amylase (2) lactase (3) galactosidase (4) maltase
4. 下列哪一個 Enzyme 不出現在 gluconeogenesis 的 pathway 中 (1) pyruvate carboxylase (2) hexokinase (3) fructose-1,6-bisphosphatase (4) phosphoglucose isomerase
5. Which site is most important for fatty acid biosynthesis (1) adipose tissue—endoplasmic reticulum (2) brain—lysosomes (3) heart—mitochondria (4) intestine—Golgi apparatus (5) liver—cytoplasm

解釋名詞 (每題 3 分, 合計 15 分)

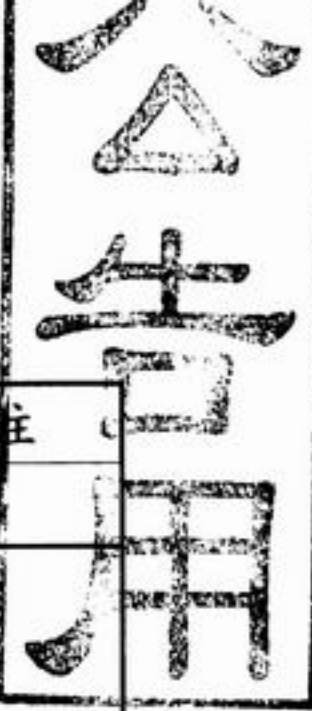
6. Proteomics
7. DNA chip
8. Essential amino acid
9. Mutation
10. Apoptosis

問答題 (合計 75 分)

11. 請說明 Electrophoresis 分析方法的原理及用途 (5%)
12. 試舉例說明 Bioinformatics 於食品科技上之應用? (5%)
13. 請舉出兩種蛋白質的定量方法並說明兩者不同之處? (10%)
14. 請舉例說明新生技食品 GMO foods 的發展情形, 並討論其對人類生活的衝擊? (6%)
15. 請說明 PCR 的機制? (7%)
16. As you know that proteins are polymers of α -amino acid, can you write down: (a) a general structure of the common amino acid; (b) a general structure of peptide bond? (6%)
17. Please give the best description on the terms of "Primary, Second, Tertiary, Quaternary structures of protein" and "Protein denaturation". (10%)
18. Please explain the competitive and non-competitive inhibition of enzymes. (6%)
19. Please draw a purine and a pyrimidine of a nucleotide. (6%)

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20.請閱讀下列文章，並由下列文章中（1）找出三個關鍵字（2）摘要說明其重點（14%）

Evolutionary developmental biology (Evo-Devo) aims to unveil how developmental processes and mechanisms become modified during evolution and how from these changes the past and present biodiversity arose. The first wave of Evo-Devo identified a conserved set of toolkits common to most metazoans. The present second wave has changed gear and aims to identify how genes and modules were used differently through evolution to build the past and present morphological diversity. The burgeoning third wave is introducing experimental testing of predictions drawn from the first and second waves. Here we review some of the hottest topics, contributions and insights of present Evo-Devo related to basic concepts and paradigms of evolutionary research. Future directions of Evo-Devo are also highlighted; in other words, Quo Vadis, Evo-Devo?