

國立嘉義大學九十三年學年度轉學生招生考試試題

科目：生物化學概論

(請將答案寫在答案卷上)

一、簡答題：(20% , 每題 5%)

1. Henderson-Hasselbalch equation
2. The Cori cycle
3. In living organism, many proteins may be categorized as “Glycoproteins” and “Phosphoproteins”. Please indicate which amino acids are usually involved in these conjugated proteins.
4. For a double strand DNA containing 21% A residues, calculate the percentage of G, C, and T. When compared with another DNA containing 50% GC content, which one supposed to be more stable?

二、問答題：(80% , 每題 20%)

1. Briefly describe the functional relationships between phosphofructokinase and fructose-2,6-bisphosphatase.
2. What is the same reaction intermediate in the following two amino acid metabolic pathways? Why?
Serine + homocysteine -ketobutyrate and cysteine
Homoserine + cysteine pyruvate and homocysteine
3. Unlike proteins and carbohydrates, due to the structure diversity, there is no common structural formula for lipids. Please classify the lipid groups as detailed as you can.
4. Glycogen metabolism is mainly regulated by some hormones, such as insulin and glucagon, which are secreted in response to the concentration of plasma glucose. Please describe the mechanism of glycogen metabolism regulated by glucagons.