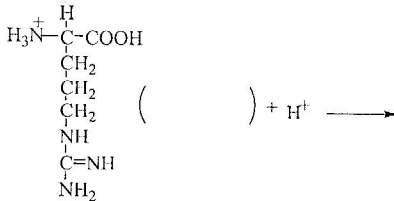
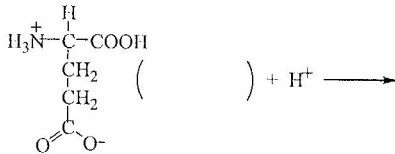
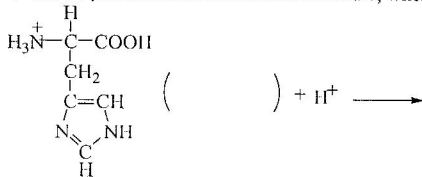


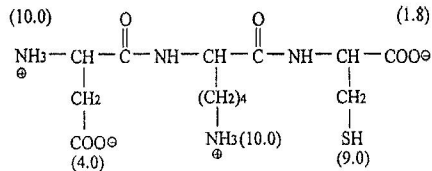
臺中健康暨管理學院
九十二學年度碩士班暨碩士在職專班招生考試試題紙

系 所 別	組 別	考試科目	考試日期	時 間	備 註
生物科技學系碩士班	--	生物化學	92.3.30	10:30-12:10	共二頁

1. Give the full name for the following amino acids in the given parentheses. If a molecule of these amino acids reacts with a proton, show the position in each amino acid molecule, where a proton displays a preference to attack. (10%)



2. Glycogen regulate blood glucose level, its synthesis and degradation pathways are coordinate, one active while the other inactive. It is an reaction cascades control, explain it. ? (15%)
3. Give experimental evidence to show that DNA replication is through the semiconservative mechanism. (15%)
4. For the tripeptide shown below, the numbers in parentheses are the pKa values of the ionizable group. (10%)



- (a) Estimate the net charge at pH 1 and pH 14.
- (b) Estimate the isoelectric pH.

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5. Give Definitions: (18%)

- (1) TATA box
- (2) DNA microarray
- (3) Gel filtration
- (4) Polymerase chain reaction
- (5) Western blot hybridization
- (6) Restriction endonuclease

6. The following reagents are often used in the protein chemistry study:

- (a) CNBr (b) Dansyl chloride (c) phenylisothiocyanate

What are the purposes for their use ? (12%)

7. Briefly describe genomic and cDNA libraries. (10%)

8. As shown below, there is a part of a polypeptide chain, in which four chemical bonds are indicated by a, b, c, and d. (1) Please show which bonds would have degrees of freedom and which bonds would be rigid? (2) Explain why the bonds have degrees of freedom and the other bonds are rigid. (10%)

