HELLENIC REPUBLIC

UNIVERSITY OF CRETE

Academic English

Section: Proteins and amino Acids handout

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Week 6: Amino Acids, Peptides and Proteins

A. Find words in the text that mean:

a. twisted into a continuous circular or spiral shape
b. becoming tighter or narrower
c. having; displaying
d. having various functions and uses
e. slow and inefficient
f. monitor; control
g. pressed fold made (usually in a piece of clothing)
h. neighbouring
i. give (a quality of)
j. very noticeable

B. Read the text carefully and define the following terms

a. Amino acid
b. Essential amino acid
c. Protein
d. Peptide
e. A residue
f. Disulfide bridges
g. Stereochemical rigidity
h. Micellar effects
i. Active sites
j. Denaturation
k. Precipitation of protein

C. Rephrase the following sentences:

1. As enzymes, they catalyse transformations ranging in complexity from the simple dehydration of carbon dioxide to the replication of entire chromosome-great coiled strands of DNA, the genetic material of living cells.

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2. Amino-acids are carboxylic acids bearing an amino group.

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3. More than 500 amino acids occur in nature but the proteins in all species, from bacteria to humans, consist mainly of only 20.

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4. Amino acids are very versatile biologically because they can be polymerised.

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5. Gramicin S is a cyclic peptide antibiotic constructed out of two identical pentapeptides that have been joined head to tail.

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6. A second feature inducing rigidity is the strongly dipolar nature of the amide functional group, which cause an appreciable barrier to rotation around the relatively short carbonyl-nitrogen bond.

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7. Not all polypeptides adopt idealised structures such as these. If too much charge of this kind builds up along the chain, charge repulsion will enforce a more random orientation.

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8. Denaturation or breakdown of the tertiary structure of a protein usually causes precipitation of protein and destroys its catalytic activity. It is caused by exposure to excessive heat or extreme ph values.

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D. Write a summary of the text, following the guidelines given in the handbook. Words should not exceed 100.

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Notes

Reference Note

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