CHEMISTRY

BOOKS - MS CHOUHAN CHEMISTRY (HINGLISH)

AMINO ACIDS AND PROTEINS

Solved Problems

1. Outline synthesis of DL-tyrosine.

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Additional Objective Questions Single Correct Choice Type

1. A peptide bond is formed between two amino acids by

A. a condensation reaction forming an anhydride.

B. a condensation reaction forming an ester.

C. a condensation reaction forming an amine.

D. a condensation reaction forming an amide.

Answer: D

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2. The pentapeptide composed of Val, Ala, Phe and 2 Gly, gives no N_2, with HNO_2. Among

its hydrolysis products are Ala, Gly and Gly, Ala.

Identify the structure

A. Gly-Ala-Gly-Phe-Val

B. Val-Gly-Ala-Gly-Phe

C. 

D. 

Answer: C

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3. How many different proteins containing 100 amino acids can be made from the 20 naturally occurring amino acids?

A. 100^{20}

B. 20^{100}

C. 100-20

D. None of these

Answer: B

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4. The majority of amino acids found in proteins are

A. α-amino acids.

B. β-amino acids.

C. $\gamma -$ amino acids.

D. δ-amino acids.

Answer: A

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5. At a pH of 7 amino acids are

A. neutral

B. cationie due to the amino group.

C. anionic due to the acid group.

D. zwitter ionic due to hoth the amino and carboxylic acid groups bemg charge.

Answer: D

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6. Protein is a polymer of

A. amino acid.

B. α-amino acids.

C. β-amino acids.

D. $\gamma -$ amino acids.

Answer: B

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7. With the exception of gly, all amino acids are chiral. Those found in proteins all have which configuration?

A. D

B. L

C. Both

D. None of these

Answer: B

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8. The isoelectric (or isoionic) point is the pH where the amino acid is

A. positively charged.

B. negatively charged.

C. neutral.

D. can't say.

Answer: C

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9. Peptide linkage is

A. $-\overset{O}{\overset{||}{C}}-O-$

B. $-\overset{O}{\overset{||}{C}}-NH_2$

C. $-\overset{O}{\overset{||}{C}}-NH-NH_2$

D. $-\overset{O}{\overset{||}{C}}-NH-$

Answer: D

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10. Which of the following is the correct representation of 1-amino acids?

A. 

B. 

C. 

D. 

Answer: A

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11. Which of the following statements regarding the isoelectric point is incorrect? The isoelectric point is calculated for

A. amino acids with neutral side chains by taking the average of pK, and PK.,

B. amino acids with basic chains by taking the average of PK, and pk

C. amino acids with acidic side chains by taking the average of pk_{a_1} and pK_{a_2}.

D. None of these.

Answer: C

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12. (At pH =2) glycine exists as

A. $H_3N^+ - CH_2 - COO^-$

B. $H_3N^+ - CH_2 - COOH$

C. $H_2N - CH_2 - COOH$

D. $H_2N - CH_2 - COO^-$

Answer: B

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13. The pH value of a solution in which a polar amino acids does not migrate under the influence of electric field is called

A. isoelectric point

B. isoelectric point

C. neutralization point

D. none

Answer: A

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Additional Objective Questions Integer Type

1. How many acidic groups are present in the given amino acid?

$$\overset{+}{N}H_3 - CH_2CH_2 - \underset{|}{\overset{COO^-}{C}}H - COO^-$$

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