

## Test bank - Amino Acids

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اللهم غزوة و من فيها ، اللهم نستودعك غزوة و أهلها ، أرضها و سماءها 🇸🇵🇸🇩🇪🇵🇸

Q1. Which of the following is not a characteristic of the  $\alpha$  carbon in an amino acid?

- A. It is chiral in all amino acids except glycine
- B. It is bonded to an amino group
- C. It is bonded to a carboxylic acid group
- D. It is bonded to a hydroxyl group

Q2. In which amino acid does the side chain form a covalent bond with the amino group?

- A. Tyrosine
- B. Proline
- C. Tryptophan
- D. Aspartic Acid

Q3. Identify the amino acids containing nonpolar, aliphatic R groups.

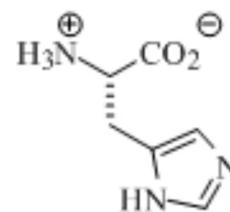
- A. Phenylalanine, tyrosine, and tryptophan
- B. Glycine, alanine, leucine
- C. Lysine, arginine, histidine
- D. Serine, threonine, cysteine

Q4. The two amino acids having R groups with a negative net charge at pH 7.0 are

- a) Aspartate and glutamate
- b) Arginine and histidine
- c) Cysteine and methionine
- d) Proline and valine

Q5. Which among the following is a non-essential amino acid?

- a) Serine
- b) isoleucine
- c) Lysine
- d) leucine



**Q6. The following structure shows ..?**

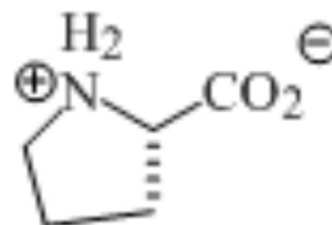
- A. Tryptophan
- B. Proline
- C. Histidine
- D. Tyrosine

**Q7. Which amino acid has a side chain that can participate in hydrogen bonding due to its hydroxyl group?**

- A. Serine
- B. Valine
- C. Isoleucine
- D. Alanine

**Q8. The structure shows which amino acid ?**

- A. Histidine
- B. Proline
- C. Tryptophan
- D. Phenylalanine



**Q9. Number of chiral centers in isoleucine is?**

- A. 1
- B. 2
- C. 3
- D. 4

**Q10. Mother of a malnourished child has been instructed to include a complete protein in diet for her child, which out of the followings Amino acids should be included in the child's protein intake?**

- A. Valine
- B. Glycine
- C. Proline
- D. Tyrosine

**Q11. In scurvy, which amino acid that is normally part of collagen is not synthesized?**

- A. Hydroxy Tryptophan
- B. Hydroxy Tyrosine
- C. Hydroxy Alanine
- D. Hydroxy Proline

**Q12. A polypeptide with a net positive charge at physiologic pH (~7.4) most likely contains amino acids with R groups of what type?**

- A. Acidic R group
- B. Aromatic R group
- C. Aliphatic R group
- D. Basic R group

**Q13. What is the role of iodine in the synthesis of thyroxine?**

- A. It acts as a catalyst in the reaction.
- B. It stabilizes the hormone structure.
- C. It attaches to tyrosine residues to form thyroxine.
- D. It transports thyroxine in bloodstream

**Q14. Pheomelanin, a tyrosine derivative, gives which characteristic color to skin and hair?**

- A. Dark brown
- B. Yellow
- C. Red
- D. orange

**Q15. Which neurotransmitter derived from tryptophan is known for its sedative effects and is often kept active by preventing its reuptake?**

- A. GABA
- B. Serotonin
- C. Norepinephrine
- D. Histamine

**Q16. Glutamate serves as a precursor to which of the following neurotransmitters?**

- A. Serotonin
- B. Dopamine
- C.  $\gamma$ -Aminobutyric acid (GABA)
- D. Norepinephrine

**Q17. What would be the consequence of a Vitamin K deficiency on blood clotting?**

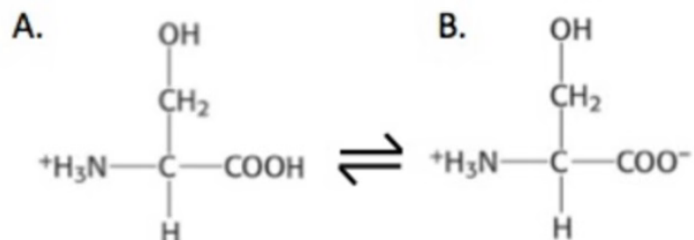
- A. Increased clot formation due to excess Gla residues
- B. Decreased clot formation due to impaired Gla formation
- C. Enhanced platelet aggregation
- D. Reduced fibrinolysis

**Q18. Which amino acid has a resonance structure**

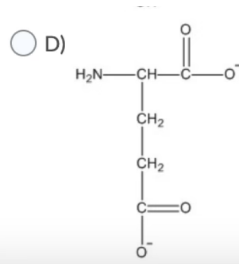
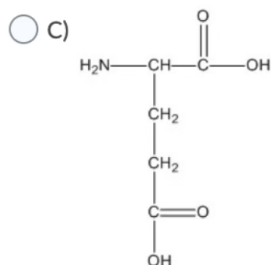
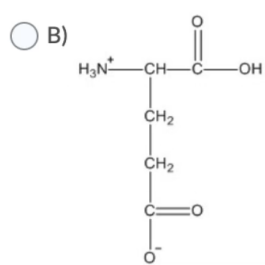
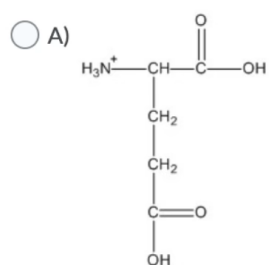
- A. Arginine
- B. Isoleucine
- C. Lysine
- D. Proline

**Q19. What is the pH at which form B predominates ?**

- A. pH = 5.5
- B. pH=3
- C. pH<3
- D. pH=8

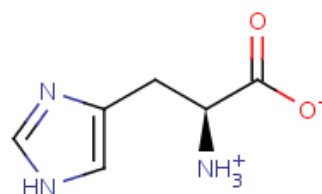


Q20. At pH = 1 which of the following is the predominant form of Glu ?



Q21. At which pH is the structure shown is predominant ?

- A. 1
- B. 7
- C. 3
- D. 12



## Answers key

1. D
2. B
3. B
4. A
5. A
6. C
7. A
8. B
9. B
10. A
11. D
12. D
13. C
14. C
15. B
16. C
17. B
18. A
19. D
20. A
21. B