

Topics for the evaluation of knowledge AMINOACIDS, PEPTIDS, PROTEINS, NUCLEIC ACIDS

1. Explain term „nitrogen balance“
2. What is pool of aminoacids:
 - source of aminoacids in living organisms
3. General metabolism of aminoacids:
 - transamination (schemes, enzymes, biological meaning)
 - decarboxylation (examples of amines and their biological meaning)
 - transamidation (schemes, enzymes, biological meaning)
 - oxidative deamination (schemes, enzymes, biological meaning)
4. Urea cycle (schemes, enzymes, biological meaning)
5. Synthesis of glutamine and its biological role (schemes, enzymes, biological meaning)
6. Metabolism of glycine, serine, alanine
7. Metabolism of sulfur aminoacids
8. Metabolism of phenylalanine and tyrosine (schemes, enzymes, biological meaning)
9. Metabolic blocks in the metabolism of phenylalanine and tyrosine
10. Explain term „metabolic disease“, give examples
11. Metabolism of aspartic and glutamic acid
12. End products of aminoacids: tryptophan, histidine, threonine, leucine and isoleucine
13. Name aminoacids which are converted to: pyruvic acid, oxaloacetic acid, alpha-ketoglutaric acid, acetoacetic acid and succinylCoA
14. Digestion of proteins
 - proteolytic enzymes (podział, activation, function and mechanism of action)
 - localisation and biological function of proteases
15. Roads entering carbon atoms of aminoacids into Krebs cycle
16. Catabolism of purines (schemes, enzymes, biological meaning)
17. Catabolism of pyrimidines
18. Biosynthesis of pyrimidine nucleotides (schemes, enzymes, biological meaning)
19. Biosynthesis of purine nucleotides (name single molecules participating in the structure of purine ring, name enzymes and coenzymes involved in the biosynthesis)

