

Master's program in Bioengineering and Biotechnical Systems

Entrance examination questions

1. Primary groups of biological polymers and their properties.
2. Proteins: structure and biological functions.
3. Nucleic acids: structure and biological functions.
4. Carbohydrates: structure and biological functions.
5. Lipids: structure, properties, biological functions.
6. Primary areas of focus of biotechnology.
7. Methods of fundamental science at the core of biotechnology.
8. Methods specific to biotechnology.
9. Object-dependent areas of biotechnology.
10. Substances produced with microbiotechnology methods.
11. Application of genetic engineering in biotechnology.
12. Prokaryotes: structure and application in biotechnology.
13. Plant cells: structure and application in biotechnology.
14. Animal cells: structure and application in biotechnology.
15. Bioelectronics in biotechnology.
16. Bioinformatics in biotechnology.
17. Production of biofuel.
18. Nanoparticles: properties, application.
19. Nanotechnologies for medicine.
20. Biopolymers: structure and properties.
21. Methods for polymer systems modeling.
22. Intermolecular interactions in polymer systems.
23. Polyelectrolytes.
24. Crosslinked polymers.
25. Biodegradable materials.
26. Physical and chemical methods of polymer systems researching.
27. Thermal characteristics of polymers.
28. Biocompatible polymer materials.
29. Electrically conductive polymer systems in medicine.
30. Optical properties of polymer systems.