

**Tests for Admission to the Bachelor's
Degree in Bioengineering. 2020-2021
Academic Year**

Subject

BIOLOGY

1. Composition of Living Beings
2. Carbohydrates
3. Lipids
4. Proteins
5. Nucleic acids
6. The Cell: Unit of Structure and Function
7. Cell Membrane
8. Membrane-Delimited Cell Organelles
9. Reproduction and Relationship of Eukaryotic Cell
10. DNA Duplication and Protein Biosynthesis
11. Mutations, Genes and Genetic Engineering
12. Reproduction and Development of Multicellular Organisms
13. Metabolism
14. Molecular Biology
15. Evolutionary Genetics
16. Ecology
17. Microbiology
18. Immunology

CHEMISTRY

1. Foundations of Chemistry
2. Gases
3. Mixtures and Solutions
4. Structure of the Atom and the Periodic Table
5. Chemical Bonding
6. Formulation
7. Chemical Reaction
8. Chemical Reactions in Solution
9. Energy and Reaction Speed
10. Carbon Chemistry
11. Functional Groups

PHYSICS

1. Physical Magnitudes and Their Measurement
2. Kinematics in One Dimension
3. Kinematics in Two Dimensions
4. Newton's Forces and Laws
5. Conservation of Momentum
6. Work and Energy
7. Energy Conservation
8. Electrical Current
9. Wave Motion
10. Optics

MATHEMATICS

1. Real Numbers
2. Equations and Inequalities
3. Trigonometry
4. Complex Numbers
5. Vectors
6. Analytic Geometry
7. Conics
8. Functions
9. Elemental Functions
10. Limits and Continuity
11. Derivatives
12. Function Graphs
13. Integrals
14. Two-Dimensional Statistics
15. Probability