

# Special Biochemical Methods (CBIM - SS)

**1. The technique of sampling of biological material and its preparation for biochemical analysis.** (allowance 2/0)

- a. Homogenization
- b. Robotics
- c. Automatization

**2. Basic types of chromatographic methods.** (allowance 4/0)

- a. Liquid chromatography
- b. Gas chromatography
- c. Ion chromatography

**3. Electrophoretic methods.** (allowance 2/0)

- a. Gel electrophoresis
- b. Capillary electrophoresis
- c. Chip electrophoresis

**4. Immunochemical methods.** (allowance 2/0)

- a. ELISA
- b. RIA
- c. Possibility of immunochemical methods

**5. Electrochemical methods.** (allowance 2/0)

- a. Basics of electrochemistry
- b. Mercury electrodes
- c. Solid electrodes

**6. Kinetics of enzymatic reactions.** (allowance 2/0)

- a. Enzymes characteristic
- b. Enzymes kinetic

**7. Lab exercises.** (allowance 0/42)

- a. Study of the effect of heavy metals on growth and development of corn.
- b. Determination of sulfur compounds using high-performance liquid chromatography with electrochemical detection.
- c. Analysis of secondary metabolites in plants with regard to the isoflavones.
- d. Biosensors for analysis of DNA and proteins.
- e. Ion-selective electrodes, and the study of enzyme activity.
- f. Basic procedures for isolation and characterization of nucleic acids and proteins.

