

Biochemistry:

1. DNA and protein

- DNA structure and organization
- DNA replication
- DNA damage and repair
- RNA structure
- Transcription and RNA processing
- RNA Translation
- Protein synthesis
- Biotechnology and human diseases

2. Chemistry of carbohydrates

- Chemistry of monosaccharides
- Chemistry of disaccharides
- Chemistry of polysaccharides

3. Enzymes

- Factors affecting enzyme activity and reaction velocity
- Enzymes inhibition and regulation
- Enzymes in clinical diagnosis

4. Lipids Chemistry

- Chemistry of simple lipids
- Chemistry of conjugated and complex lipids
- Chemistry of compound and derived lipids
- Electron transport chain

5. Carbohydrate metabolism

- Glycolysis
- Krebs's cycle
- Gluconeogenesis
- Glycogen metabolism
- Regulation of glycogen diseases and glycogen storage diseases
- Genetic diseases of the muscles
- Energy sources of the muscle
- HMP shunt
- Blood glucose regulation
- Glucose assay
- Metabolism of rest of monosaccharides and disaccharides

6. GIT Biochemistry

- Digestion and absorption
- Metabolism of xenobiotics
- Heme catabolism and metabolism of bilirubin
- Fatty liver