

Summer term 2023/2024

**1<sup>st</sup> year, DENTISTRY**

### **Practical Credit Tasks**

**Each student chooses (receives by chance) two questions: one from part A, and one from part B.**

Each question is evaluated on scale 0–5 points; at least 3 points must be obtained for each question in order to pass the practical credit examination.

In case of failure two more attempts to pass the practical examination can be provided.

**A. Tasks in which knowledge of the principle, clinical usage and practical performance will be required (instructions on the procedure will be available)**

1	Analysis of dental amalgam.
2.	Analysis of zinc phosphate cement.
3.	Acid-base titration: Estimation of substance and mass concentration of sulfuric acid.
4.	Analysis of unknown sample of saccharide.
5.	Estimation of glucose in serum.
6.	Estimation of total bilirubin in serum.
7.	Estimation of catalytic concentration of AST in serum.
8.	Estimation of catalytic concentration of ALP in serum.
9.	Estimation of total cholesterol in serum.
10.	Estimation of triacylglycerols in serum.
11.	Estimation of calcium in serum.
12.	Demonstration of selected components of saliva.

**B. Theoretical tasks**

1	Photometry – principle and usage.
2.	Chromatographic methods – principle and usage.
3.	Principle of pH measurement, ion-selective electrodes. Electrophoresis – principle and usage.
4.	Principle of buffering, calculation of buffer pH. Buffering systems in saliva.
5.	Main inorganic and organic components of saliva – overview, function and significance.
6.	Dental erosion. Assessment of erosive potential of beverages. Actual and titratable acidity.
7.	Properties of proteins: reversible and irreversible precipitation, denaturation. Dialysis.
8.	Mineral of bone and teeth. Factors affecting solubility of hard dental tissues.
9.	Basic biochemical examination of diabetes mellitus (glycemia, oGTT, glucose in urine, glycosylated proteins).
10.	Markers of bone formation and bone resorption.
11.	Basic biochemical examination of liver function.
12.	Basic biochemical examination of serum lipids.

April 30<sup>th</sup>, 2024

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