**Final Exam Themes**

**for Food Engineering BSc students**

**2nd semester of academic year 2020/2021**

**Food Technology**

* Milling industry - milling of wheat, quality parameters of flour
* Baking and pasta industry - the bread production
* Malt and beer technology, brewing
* Processing of sugar, candy and chocolate production
* Plant oil production, quality parameters of oil
* Processing of poultry, quality and quantity parameters of egg, processing of egg
* Processing of large mammals (cattle, porcine)
* Quality and quantity parameters of milk, processing of milk
* Thermal processing of fruits and vegetables (drying, concentration, pasteurization)
* Fermentation food processing technologies (wine, spirits, lactic fermentation of vegetables)

**Unit operation**

* Elements of Fluid Mechanics (classification of fluids, definition and types of viscosity, flow parameters -flow rate, -flow velocity, -pressure, -cross flow section)
* Laws of flow of fluids (characterization of flows - Re number, Velocity profiles, Boundary layers, Bernoulli’s Law, Bernoulli equation, Principle of Continuity)
* Centrifugal separation and centrifuge equipment in food industry
* Size reduction of Solids, Basic Principles, Equipment and Methods
* Mixing in the food processing
* Mass transfer and diffusion - Fick's law, characterization of diffusion processes
* Principles of gas absorption - gas-liquid equilibrium (Henry's law), equipment for absorption
* Distillation and rectification - vapor–liquid equilibrium, batch distillation, rectification
* Crystallization
* Membrane processes

**Food industry economics**

* Importance and Economic Indicators of Food Industry within the National Economy (Main functions, ratio in the GDP, labour, investment)
* Situation of Global Food Industry – (Structure, main food industrial brances, key figures of production, trade and consumption)
* Measuring Methods and Theories of Competitiveness of Food Industry
* Analysis of the External Business Environment. Methods (PEST, PORTER’s Five Forces) SWOT)
* Effecting Factors of Food and Drink Demand, Supply and Trading
* Regulations and Organisations of Global Food Trading, Basic forms of Trading, Methods of Pricing)
* Give an Overview of Your own Country’s Food Industry (Importance in the national economy, main branches, production, consumption, export – import, difficulties, challenges.)
* Concentration and Forms of Cooperation or Integration in the Food and Drink Industry (with examples)
* Basic Principles and Structure of Food Supply Chain and FCM
* Future Trends and Challenges of Global Food and Drink Industry